WIREPATH
SURVEILLANCE

# WPS-100-DVR

# 4 CHANNEL DVR

INSTALLATION AND USERS MANUAL

*Review manual thoroughly before installation. Retain for future reference.*

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## SAFETY INFORMATION

- Handle this device with care. Do not strike or shake this device as this may damage it.
- Do not expose this device to water or moisture. Moisture may damage the device and also cause electric shock. Do not operate it in wet areas. Take immediate action if the device becomes wet. Turn the power off and refer servicing to qualified service personnel.
- Do not use this device near any heat sources such as radiators, heat registers, stoves or other apparatus that produces heat.
- Protect the power cord from being stepped on or pinched particularly at the point where it connects to the device and at the receptacle.
- Do not operate this device beyond its specified temperature, humidity or power source ratings.
- Use this device in humidity below 85%.
- The performance and lifespan of the hard drive is affected when used in high temperatures. It is recommended to use this device within 68°F ~ 86°F.
- If mounting in a closed space, ventilation should be included. Do not block any ventilation openings.
- Handle the hard drive with care.
  - It is possible to damage the hard drive if it is moved while the motor is still spinning. Do not move this device after turning on the power. Follow the shutdown procedure (see Section 5.6) and wait at least 30 seconds before moving this device even if it is to simply reposition it on a shelf or in a rack.
  - If servicing or exchanging the hard drive, protect it from static electricity. Use a grounded static wrist guard and matt to properly ground yourself before servicing the hard drive.
  - Do not use an electric screw driver to remove or install a hard drive.
- Clean this device with a dry cloth. Do not use strong or abrasive detergents when cleaning the device chassis. If dirt is hard to remove, use a mild detergent and wipe gently.
- Please make a note of the system settings and save them. This will help when required to change the system configuration, or when unexpected failure or trouble occurs.
- Do not drop metallic parts through the ventilation slots. This could permanently damage the device. If something falls inside the device, turn off the power immediately and contact qualified service personnel for service.
- Distributing, copying, disassembling, reverse compiling, reverse engineering, or exporting the software provided with this product, is expressly prohibited and in violation of the law.

THIS PUBLICATION COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. AT ANY TIME CHANGES COULD BE MADE TO THE INFORMATION HEREIN FOR THE IMPROVEMENT OF THIS PUBLICATION AND/OR THE CORRESPONDING PRODUCT(S).

## REGULATORY COMPLIANCE

This product complies with the relevant standards for CE, FCC, and RoHS approval. The Power Adaptor/Supply has been tested for compliance with UL, CSA, and CE standards.

CE FC RoHS Compliant

# 1. PRODUCT OVERVIEW

## 1.1 INTRODUCTION

The Wirepath™ WPS-100-DVR-4CH is a state-of-art Surveillance DVRs offering unsurpassed technology. Features such as Hexaplex operation with triple streaming via H.264 (low and high res), and MJPEG provides easy-to-use remote access via Automation Systems, PC, or Smartphone. With H.264 compression, D1 / Half D1 / CIF video resolution support and adjustable Frame Per Second record settings the installer can maximize the storage time of the built-in hard drive.Wirepath™ DVR's professional grade features make them ideal for high-end residential and commercial monitoring applications.

## 1.2 PACKING LIST

(1) DVR
(1) 12V / 3.0A External Power Supply
(1) IR Remote
(2) AAA Batteries
(1) USB 1.1 Mouse
(1) Quick Installation Guide
(1) Disc with supporting documents

## 1.3 FEATURES

**Connections**

- Up to 4 cameras or composite video sources
- 2 Audio inputs, 2 Audio outputs

**Video / Audio**

- Hexaplex operation - simultaneous record, live playback, backup, control, & simultaneous H.264 and MJPEG remote access
- Triple Stream H.264 and MJPEG
  - High Res H.264 for recording and streaming to IE Interface and Smartphones
  - Low Res H.264 for streaming for devices on bandwidth limited networks
  - MJPEG for streaming to Automation Systems
- Record capabilities
  - Full-D1: up to 120 FPS (frames per second)
  - Half-D1: up to 240 FPS
  - CIF: up to 270 FPS (9CH) and 480 FPS (16CH)
- Playback capabilities
  - Full-D1: up to 120 FPS (frames per second)
  - Half-D1: up to 240 FPS
  - CIF: up to 270 FPS (9CH) and 480 FPS (16CH)
- Real-time live display, 30 FPS, for each channel
- Versatile display formats: full-screen, 4,7, and 8 camera split windows
- ADPCM audio compression

**Storage**

- 500GB 3.5" SATA hard disk drive included
- Video/audio backup to USB2.0 storage devices, including thumb drives, DVD drives, etc.

**Control / Remote Access**

- IR, and IP Controllable
- Ethernet interface
  - Stream video/audio to Automation Systems, IE interface, and Smartphones
  - Integrated control via Automation Systems such as Control4
  - Remote Setup
  - Remote software upgrade
  - Remote alarm notification via email
  - FTP video/audio storage
  - DDNS support

**Advanced Operation**

- Playback search by time or event (alarm, motion, & video loss)
- Smart search & playback
- Intelligent motion detection with programmable area and sensitivity
- Multi-level password protection to ensure a high degree of security

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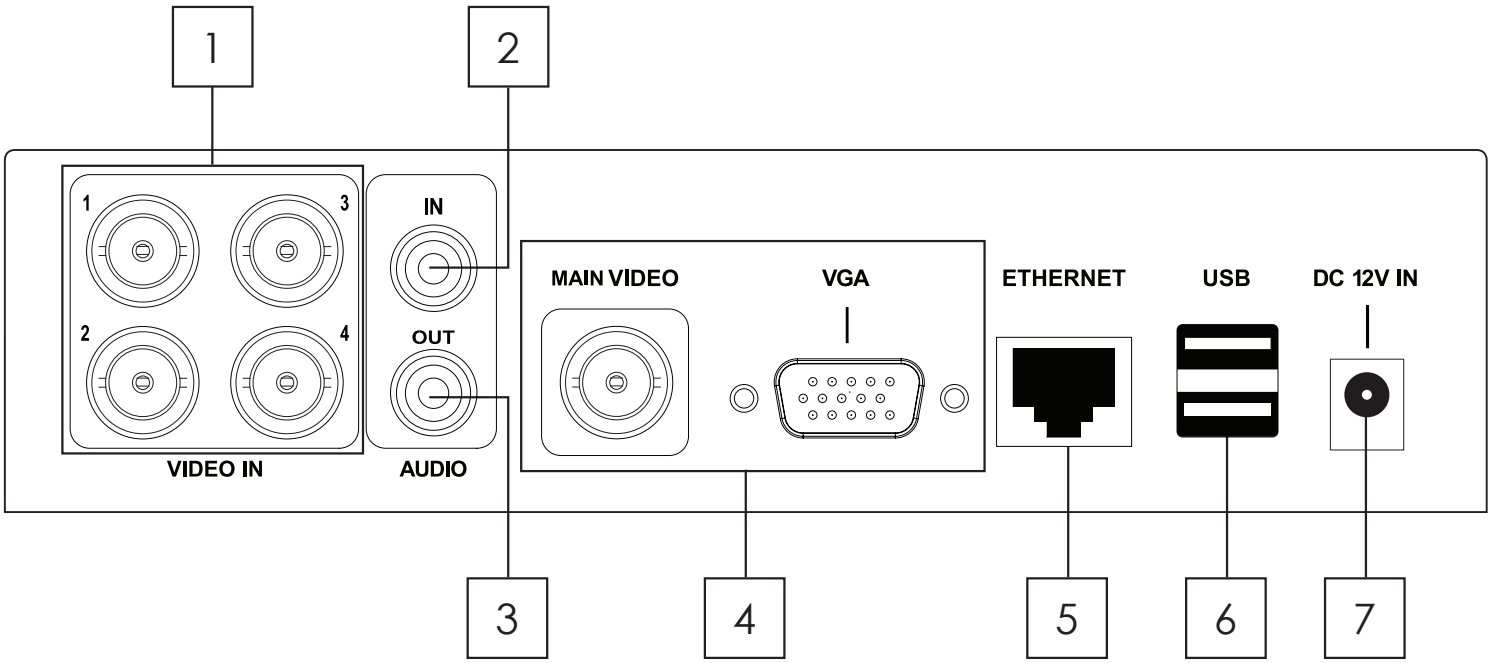



## 2. FRONT AND REAR PANELS AND REMOTE CONTROL

### 2.1 REAR PANEL

**1. Video Input Connectors (4)**
Connect system cameras to these BNC connectors.

**2. Audio Input Connector (AUDIO IN)**
RCA connector for line-in audio signals supplied from external device such as a microphone amplifier.

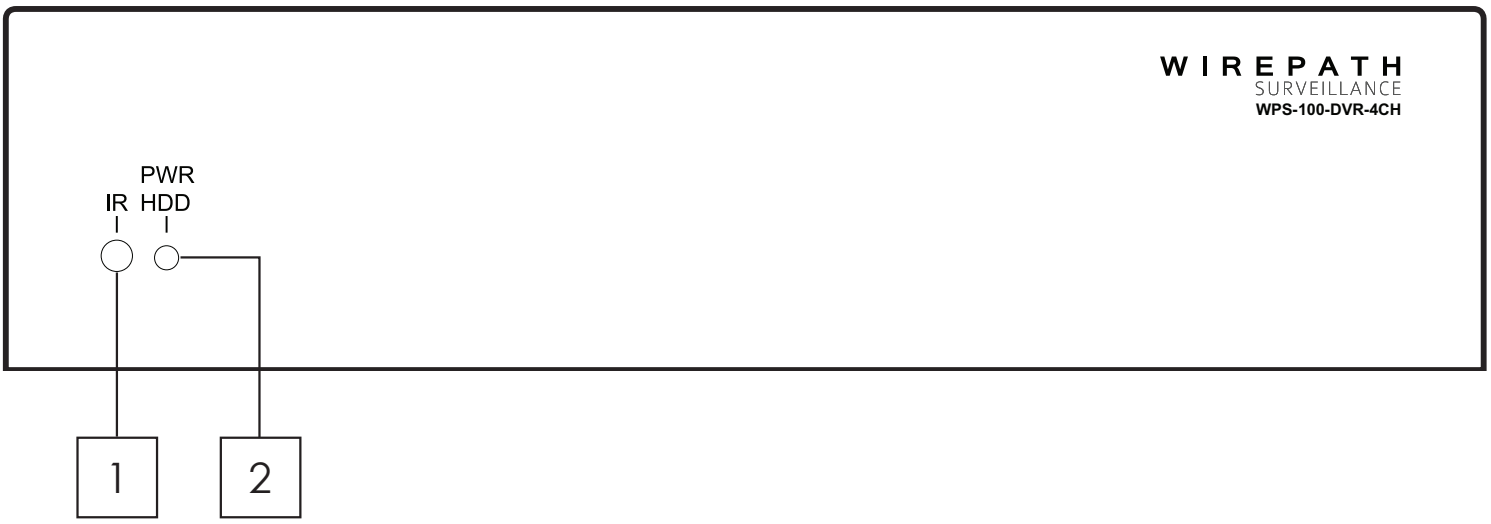
**3. Audio Output Connector (AUDIO OUT)**
Supplies line-out audio signal to an external device such as an amplifier connected to a speaker. Recorded audio will be supplied from AUDIO OUT during playback.

**4. Main Monitor Output Connectors (BNC/VGA)**
Connection to TV monitors via BNC or VGA connector for main monitor display.

**5. Ethernet Connector**
Connect to a 10/100Base-TEthernet network for remote access and integrated control and video streaming to Automation Systems.

**6. USB connector**
Connect the supplied USB 1.1 mouse and/or USB 2.0 compatible storage device, such as USB 2.0 disk drive, DVD+RW, card reader, etc.

**7. Power Connection (DC IN)**
Connect the supplied External Power Supply. Acceptable Range: 12V / 3.0A DC




## 2.2 FRONT PANEL

**1. Remote IR Sensor**
Use to receive signal from an IR remote controller.

**2. Power / HDD LED**
Indicates status of Power and HDD.
RED – Power On (Flickers to indicate HDD Activity)
OFF – Power Off

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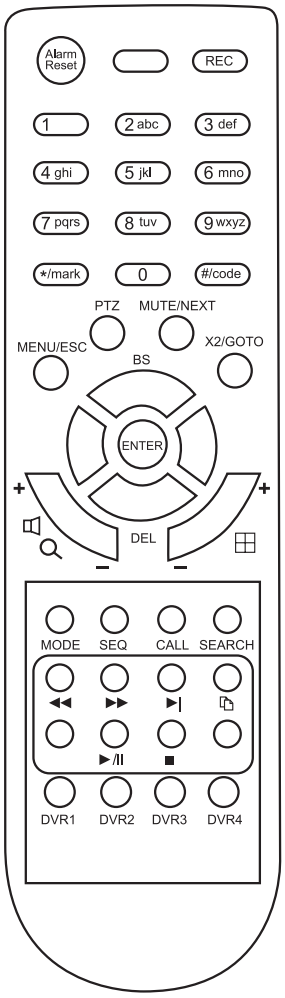
## 2.3 REMOTE CONTROL




Remote Control Buttons include:

**1. 1-9, 0, *, # (Numeric Buttons)**

**3. CALL Button**

**4. MODE Button**

**5. +/- buttons by the 🔊/🔍 symbol (Volume/Zoom Control)**

**6. +/- Buttons by the ⊞ symbol (Split Window Control)**

**7. ENTER Button**

**8. MENU / ESC Button**

**9.▲/BS (Up/BS Button)**

**10. PTZ ( No Function on 4ch)**

**11.◀ ▶(Left/Right Buttons)**

**13. FWD/REV (on the jog shuttle dial)**

**14. (Copy Button)**

**15. ▶/II (Play/Pause Button)**

**16. ■ (Stop Button)**

**18. X2/GOTO**

**20. ▼/DEL (Down/DEL Button)**

**22. MUTE/NEXT**

**24. SEQ Button**

**25. SEARCH Button**

**26. Alarm Reset**

**27. REC Button**

# 3. INSTALLATION

## 3.1 POSITIONING THE 100 DVR

Wirepath Surveillance DVRs are designed to deliver unsurpassed technology with superior performance. However, where you place the DVR can have a large effect on the performance that you receive, and the life of the unit. Here are some guidelines to follow when installing the DVR.

- Position the DVR with all feet resting on a solid level surface.
- Be sure that the DVR is in a well-ventilated area that provides adequate cooling.
  - Do not place the DVR on carpeting or any similar material.
  - Do not install the DVR near a source of heat, or in an extremely humid or wet location.
  - If your installation lacks good air flow (such as solid cabinet doors or wall-mounted racks), it may be necessary to create ventilation to allow outside air into the space.
- Allow a minimum of 2" of depth behind unit to accommodate cables and connectors.

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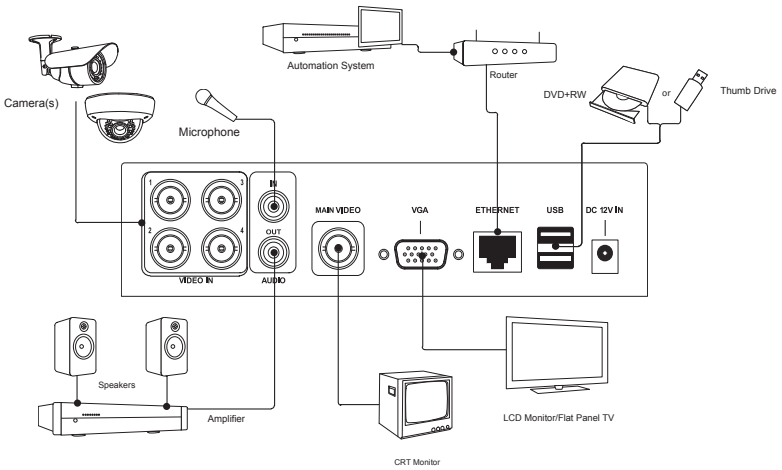
## 3.2 CONNECTIONS

To ensure proper performance and operation of the100 DVR, it is recommended that all connections and setup be performed by a qualified system installer.

### 3.2.1 BASIC CONNECTIONS




- **CAMERAS**
  Connect the video output from cameras or other composite video sources using coaxial cable to the Video In connectors.

- **MAIN MONITOR/VGA OUTPUT**
  Connect the Main Monitor BNC to a surveillance TV monitor
  Connect the Main Monitor VGA output to a VGA monitor or Flat Panel TV

- **POWER**
  Connect the included External Power Supply to surge protection or wall outlet.

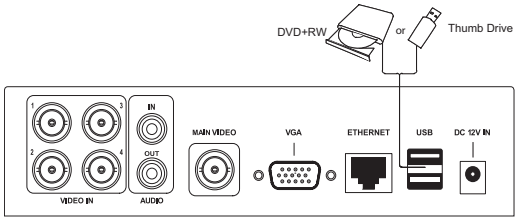
### 3.2.2 OPTIONAL CONNECTIONS

- **AUDIO INPUT**
  Connect the audio input connector to the audio line-out from line level microphones or other audio sources. Please make sure to associate the audio inputs with a camera in the **Camera Setup** as described in **Section 6.2** accordingly. An audio input can only be associated with one camera.

- **AUDIO OUTPUT**
  Connect the audio output connector to an amplifier and speakers.

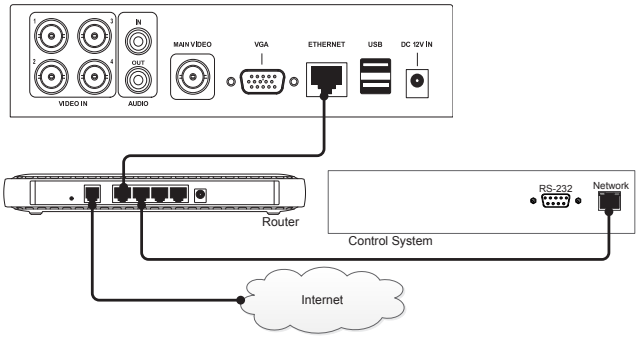
- **ETHERNET**
  Connect the Ethernet connector to router via a standard Ethernet cable for control and streaming to an Automation System, remote access via PC or Smartphone, or event email notifications.Please make sure to setup the related configurations as described in Section 6.4 Network Setup.

- **USB 2.0**
  Connect external storage devices such as USB thumb drives, and DVD+RW drives or for archiving video and audio.




**IP CONTROL CONNECTIONS**
Wirepath™ DVRs provide integration with Automation Systems via Ethernet allowing for control and streaming of video. Connect the Ethernet port to a home automation network.

**Note:** This feature is only available on DVRs with software versions 7.77.53 or higher and requires the home automation system manufacturer to provide the driver. Update the DVR to the latest version available on the SnapAV Website to use this feature.



# 4. MAIN SCREEN AND BASIC OPERATIONS

The following sections (**Sections 4-6**) relate to the display output from the VGA or BNC connection. For operation using an Internet Explorer web browser see **Section 8**.

The 4-Window split screen, as shown above, is the main screen displayed after system startup. 1-Window, 4-Window (as described in **Section 5.7**). In addition to the split window, a **System Status Bar** is displayed at the bottom of the screen. Time is displayed in the lower-left corner while system status is displayed in the lower-right corner. Scrolling screen messages are displayed when certain events occur.

**The System Status Bar offers the following information:**

- SEQ display– SEQ icon shown for SEQ display ON
- Backup state – Backup icon shown for backup
- Manual record - REC icon shown for ON,
- Zoom states – X2, or X4
- Mute state – Speaker icon visible when not muted; the icon will not be displayed in mute state
- Hard Drive recording percentage
- Video Loss - a message with the corresponding camera number scrolls from right to left
- Motion Detection- a message with the corresponding camera number scrolls from right to left
- Current date and time

**In the top left of each camera the following information is displayed:**

- Camera Title – name of the camera
- Recording icon – indicates video is being recorded
- Motion icon – indicates motion detected for this camera

In split screen windows, the "focus" camera is indicated by a green or red box around the camera's title. **Green** indicates live video, and **red** indicates recorded video that is being played back.

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## 4.1 TEXT INPUT

There are certain system settings that the system requires text to be entered, such as system login, camera title setup, etc. Follow the steps below using the **remote control** to enter text when prompted to do so by a text box:

1. Press **ENTER** to edit the highlighted option. The flashing cursor will be displayed to indicate the editing point.

2. Press ◄► to move the cursor to the left/right.

3. Press **#/code** (found on the remote control) in text editing mode to change text case. If the text entry accepts numbers only, pressing **code** will have no effect. Toggle through the options to select:
   - **123** = Number only
   - **abc** = All lower case letters
   - **ABC** = All capital letters
   - **CODE** = Used for languages that requires characters

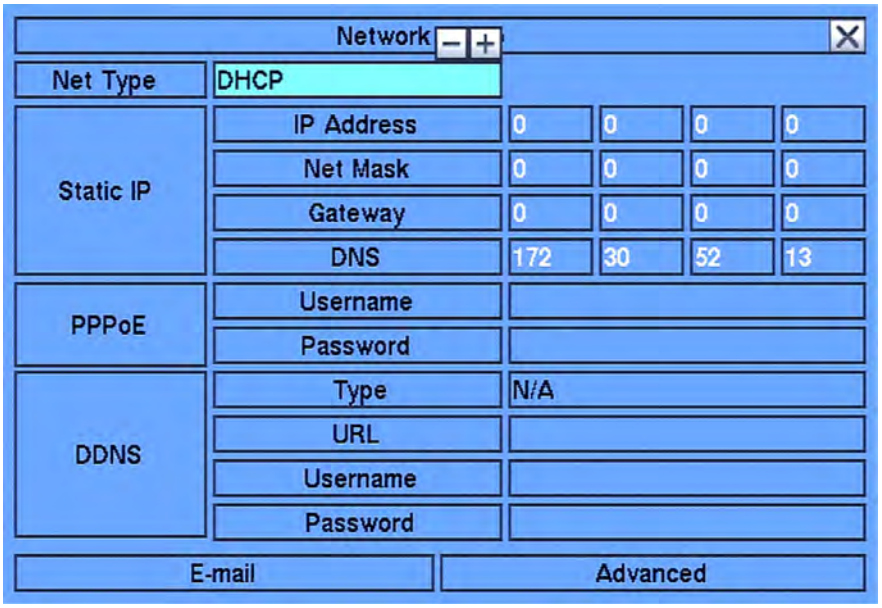
4. Use the the remote control to press a number key **(1-9, 0)** repeatedly until the character you want appears (**1** for **1** or space, **2** for **2, a/A, b/B, or c/C**, etc.).

5. Press **∗/mark** (found on the remote control) to display a list of punctuation marks and special characters. The highlighted character in the list indicates the selected character. Press ▲▼◄► to change the selection.

6. If you make a mistake, using the remote control press **BS** to remove the character to the left of the cursor, or press **DEL** to delete the character at the current cursor position.

7. Press **ENTER** to exit the highlighted option and save changes, press **ESC** to exit without making changes.

Alternatively, the supplied mouse can be used to enter text. When using the mouse to enter text, click on a highlighted option window with the left mouse button. A **Keyboard Simulator** will be shown.




Click on "**#**" (or **"abc"**) to change text case. Click on the alpha-numeric characters to enter letters and numbers. Click on "**∗**" for special characters. Click on the check mark to accept the changes or click on the **X** to exit without changes.

## 4.2 LOGIN / LOGOUT

There are three password levels in the system; **Administrator** (highest), **Supervisor**, and **Operator** (lowest). If the user does not login to the system, the user will be treated as a **Guest** and can only view live video display.

The system allows up to 18 user accounts. The Administrator can set up the login name and password for each user (please refer to **Section 6.7** for Password Setup) and has access to all features. The Supervisor can operate the live video display, video playback and archive. The Operator can only operate the live video display.

To login or logout of the system, press the **MENU** button on the remote control and then use the arrow buttons to select the desired option. Once the option is highlighted, press the **ENTER** button. Alternatively, use the mouse by first right-clicking the mouse to display the main **MENU** and then select the **LOGIN** icon.

In **Login/Logout** menu, follow the text input method described in **Section 4.1** to enter the **Login name** and **Password.** Once the name and password are entered, press ▲▼ to highlight and select the **Login** option. Press **ENTER** to login the system. To logout of the system, first display the **Login/Logout** menu and the press ▲▼ to highlight and select **Logout** option, and then press **ENTER**. Use the **ESC** button on the remote control to exit without making changes. Alternatively, use the mouse to select the exit button or simply "right-click."

**FACTORY PRESET ADMINISTRATOR LEVEL LOGIN**

## 4.3 BASIC OPERATIONS USING THE CONTROL BAR

After logging into the system, use the supplied mouse to operate the DVR. A **Control Bar** will be displayed at the bottom of the display by "dragging" the mouse to the bottom screen. It is recommended to operate the **Control Bar** using the included mouse. Where applicable, buttons on the remote control are indicated in the descriptions below.

**The following is a brief description for each item in the menu and its specific operations:**

- **NUMERIC**

  Select any camera from the remote control by using the numeric buttons. Only buttons 1-9 are available on the 9 channel DVR; all 16 are available on the 16 channel DVR. Alternatively, use the mouse to select any of these icons to switch to the full-window display of a particular camera.

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- **MODE**

  Use the remote control to toggle live and playback mode.
  Playback mode is indicated by a **red** box around the camera title of the focus camera (the camera being controlled). If in a split window display, the focus window will first switch to playback mode. A second press of the button will toggle additional windows to playback mode. Continue to press the **MODE** button to return to live mode (indicated by a **green** box around the camera title of the focus camera). Alternatively, use the mouse to select this icon.

  ***MODE is only available to an Administrator or Supervisor.***

- **SEQ**

  Press this button on the remote control to switch to or exit from the sequence display mode.
  Alternatively, use the mouse to select this icon. In sequence mode, each page in the sequence will be shown sequentially for the preset time, and the **SEQ** icon will be shown in the **System Status Bar** in the lower-right corner of the screen.

- **CALL**

  Press this button on the remote control to switch to or return from full screen display of the focus camera. Clicking the mouse in the focus camera window will achieve the same result.

- **SEARCH**

  Press this button on the remote control to display the search menu.
  Alternatively, use the mouse to select this icon.

  ***SEARCH is only available to an Administrator or Supervisor.***

- **REC**

  Press this button on the remote control to force manual recording. To stop manual recording, press it again. Alternatively, use the mouse to select this icon. All cameras will be recorded and a red REC icon will be shown on the lower-right corner of the screen when manual recording is active.

- **MENU**

  Press this button the remote control (both labeled **MENU/ESC**) to display the **Main Menu**.
  Alternatively, use the mouse to select this icon, or, "right-click" the mouse to display the Menu.

- **X2**

  Press this button on the remote control to enter the Digital Zoom mode when in full screen display.
  Alternatively, use the mouse to select this icon.

- **VOLUME**

  Press these buttons on the remote control to control the gain (volume) of the **AUDIO OUT** jack. Alternatively, use the mouse to select this icon.

- **GRID**

  Press the **Grid** buttons (next to the grid symbol) on the remote control to toggle through the available split-window displays. Only split-windows 1, 4, 7, and 9 are available in this DVR. Alternatively, use the mouse to select the split window grid options.

- **PAGE**

  When in split window view, press the **Page** button on the remote control to toggle through multi split-window displays. Alternatively, use the mouse to consecutively click on this icon.

- **OSD**
  Use the mouse to select the **OSD Display** icon to enable or disable the following information from appearing in the **System Status Bar** on the main display; **Title, Time, Messages, Status and Rec%**.

- **COPY**
  Press this button on the remote control to display the **Search** menu and then copy recorded video to the storage device connected to the USB port.

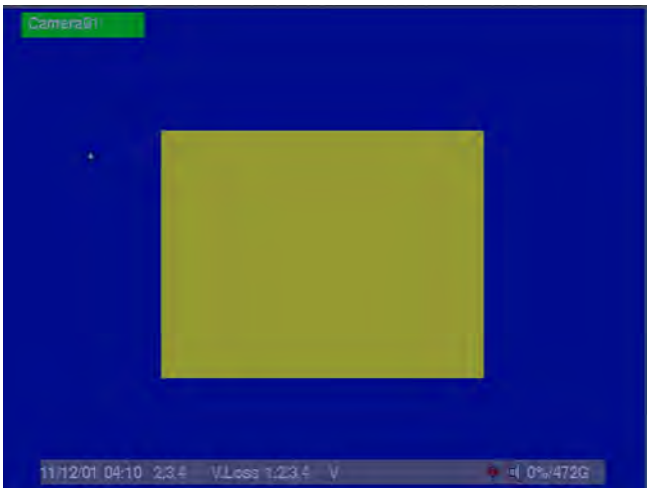
- **TRANSPORT CONTROLS**
  Use the **Transport** buttons on the remote control during playback to control the video. Alternatively, use the mouse to click on these icons.

- **FAST/SLOW**
  Use the mouse to select this icon to toggle the speed of the forward and backward transport buttons.

- **PLAY/PAUSE**
  Press this button on the remote control to launch the **Instant Playback** menu to playback the last 30 seconds or 1, 2, 3 or 5 minutes of video.
  Alternatively, use the mouse to click on this icon.

## 4.4 DIGITAL ZOOM

The DVR supports X2 and X4 Digital Zoom. Use this function in full window display mode. Press the **X2** button on the remote control to enter Digital Zoom. Alternatively, use the mouse to select the icon ( )found in the **Control Bar**. A yellow zoom window will be displayed in the video window as shown.




- **X2 AND ENTER**
  Use the buttons on the remote control to zoom from X1 to X2. Pressing the **X2** button again followed by **ENTER** button will zoom to X4. Pressing the **X2** button followed by **ENTER** a third time will return the zoom to normal X1 view.

- **▲▼◄►**
  Use these buttons on the remote control to move the zoom window.

- **ESC**
  Use the **ESC** button on the remote control to escape from **Digital Zoom** mode and return to the normal full screen display. Alternatively, use the mouse to select the **exit** button or simply "right-click."

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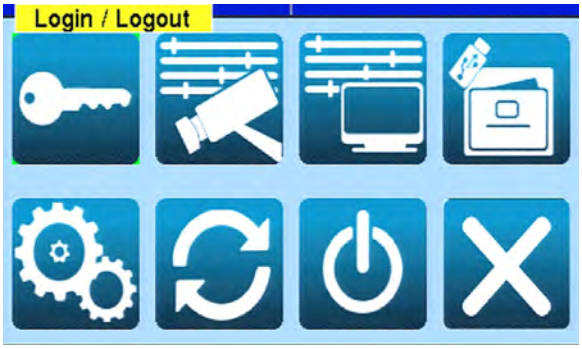
# 5. MAIN MENU

Select the **MENU** icon from the **Control Bar** or right click the mouse in the display window to activate the main Menu display as shown.




In the main Menu display and all subsequent displays, the items enabled are highlighted in Blue, and those disabled in Gray. Refer to **Appendix B** for an outline of the structure of Menu Displays, and to **Section 4.2** for **Login/Logout** display. The names of the icons are displayed when the mouse "hovers" over the icon.

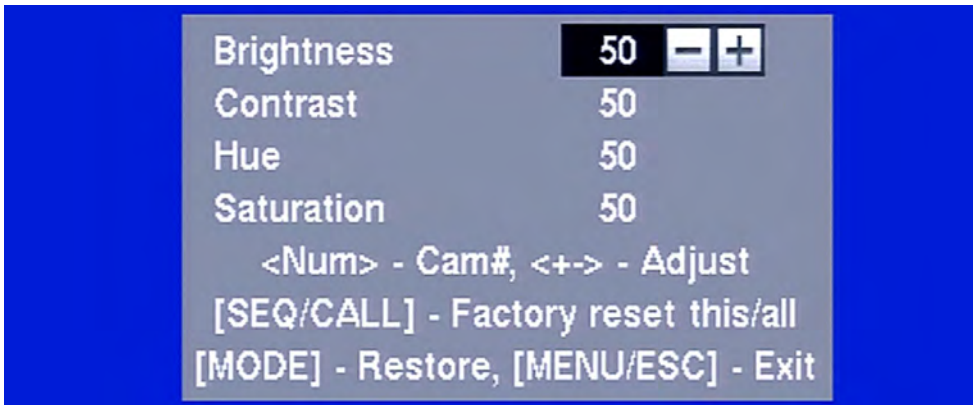
**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the remote control to change the highlighted item.
  Alternatively, use the mouse to navigate.
- **ENTER**
  Press this button on the remote control to enter the detailed display of the highlighted option. Alternatively, use the left mouse button to select an option.
- **ESC**
  Press this button on the remote control to escape from Menu display, and return to the main video display. Alternatively, use the mouse to select the EXIT icon or simply "right-click" the mouse.

## 5.1 VIDEO ADJUSTMENT

The **Video Adjustment** menu allows for the adjustment of **Brightness, Contrast, Hue, and Saturation** for each video input.

Once in the main Menu display, press ▲▼◄► on the remote control to select **Video Adjustment** and then press **ENTER** to display the menu as shown. Alternatively, use the mouse to click on the **Video Adjustment** icon.




**The following is a brief description for each item in the sub menu and its specific operations:**

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.

- **NUMERIC** 1 2 3 4
  Press these buttons on the remote control to change the camera.
  Alternatively, use the mouse to select the desired camera.

- **+/-**
  Press these buttons on the remote control to change the settings.
  Alternatively, use the mouse to make these changes.

- **SEQ**
  Press this button on the remote control to reset the video settings for the camera being viewed to factory default values.

- **MODE**
  Press this button on the remote control to restore the values.

- **ESC**
  Press the ESC button on the remote control to escape from this menu and return to the main Menu display. Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

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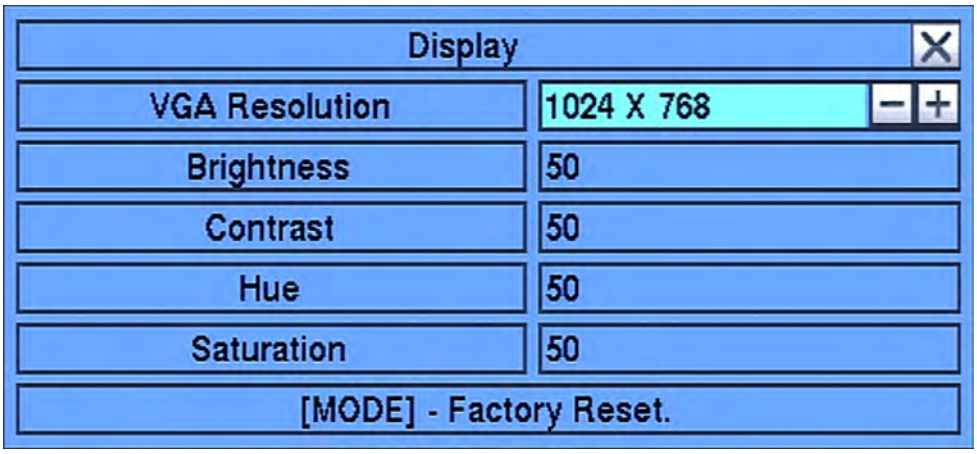
## 5.2 DISPLAY

The **VGA Display** menus allows for adjustment to the VGA output of the DVR.

Once in the **Main Menu** display, press ▲▼◄► on the remote control to select **VGA Display** and then press **ENTER** to display the menu as shown. Alternatively, use the mouse to click on the **VGA Display** icon.




Use the operations listed below to adjust **Resolution, Brightness, Contrast, Hue, and Saturation**.

**Warning – Be sure the connected VGA monitor can accept the desired resolution before selecting it. If a resolution is selected that is not supported by the monitor and video is lost at the VGA monitor, continue to use the +/- buttons on the remote control to select a setting that is supported.**
**Another option would be to temporarily connect a composite video monitor to the Video Out BNC to properly set the VGA resolution.**

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.

- **+/-**
  Press these buttons on the remote control to change the settings.
  Alternatively, use the mouse to make these changes.

- **NUMERIC** 1 2 3 4
  Press these buttons on the remote control to change the camera.
  Alternatively, use the mouse to select the desired camera.

- **MODE**
  Press this button on the remote control to restore **Brightness, Contrast, Hue and Saturation** values. Alternatively, use the mouse to click on the Factory Reset button.

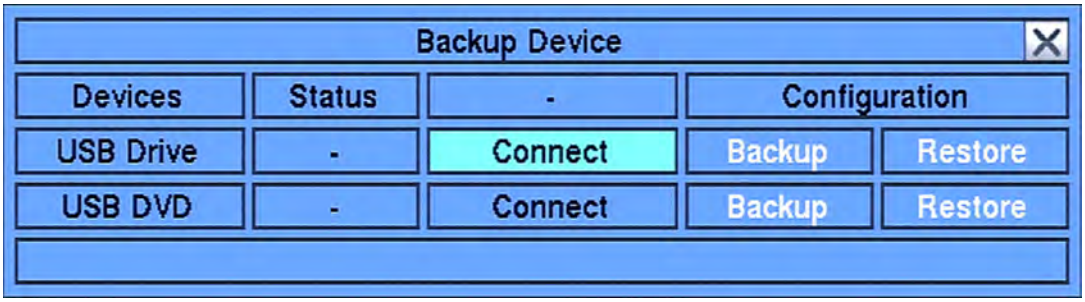
- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main Menu display. Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

## 5.3 BACKUP DEVICE

The **Backup Device** menu allows for backup and restoral of the DVR's configuration to or from a USB device. This DVR supports a variety of USB 2.0 storage devices including thumb drives and DVD drives.

Once in the main Menu display, press ▲▼◄► on the remote control to select **Backup Device**, and then press **ENTER** to display the menu as shown. Alternatively, use the mouse to click on the **Backup Device** icon.

*Note: It is highly recommended to make a backup of the configuration once complete. Keep a copy of this backup in a secure location for future use. When setting up multiple DVRs with similar configurations, this feature could also be used to create a "template" file to speed the setup process.*




**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main Menu display. Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

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- **CONNECT/DISCONNECT**

  If the backup device is disconnected (as shown in screen capture above), plug the USB device into the **USB 2.0** port and then press **ENTER** on the remote control. Alternatively, use the mouse to click on the **CONNECT** button. If the device is already plugged in, press **ENTER** on the remote control to connect the device. Alternatively, use the mouse to click on **CONNECT**. It is recommended to select the **DISCONNECT** option before unplugging the USB device.

  *Note 1: Before using a USB drive, format it to FAT32 file system using Windows.*

  *Note 2: The backup device must be connected by the system software before it can be used to read/ write. If it fails to connect, unplug the device and then plug the device into the USB port again.*

  *Note 3: Some backup devices may have compatibility problems. See the list of tested devices below.*

- **BACKUP**

  Once a device is connected, use the ▲▼◄► buttons on the remote control to select **BACKUP** for the corresponding USB device and press **ENTER**. Alternatively, use the mouse to select this button. Enter the directory to backup the configurations to. This button will remain white in color and unavailable until a USB device is connected.

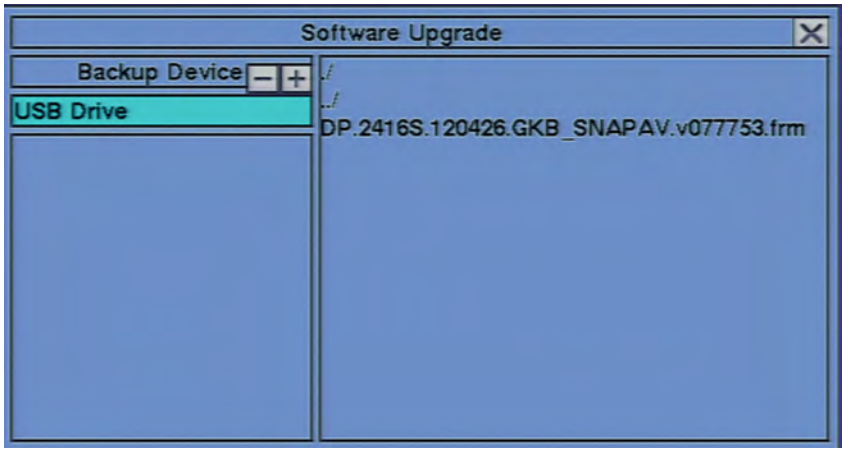
- **RESTORE**

  Once a device is connected, use the ▲▼◄► buttons on the remote control to select **RESTORE** for the cor responding USB device and press **ENTER**. Alternatively, use the mouse to select this button. Enter the directory to restore the configurations from. This button will remain white in color and unavailable until a USB device is connected.

## 5.4 SOFTWARE UPGRADE

**This menu is available to Administrators only.**
On occasion it may be necessary to update the DVR's software to take advantage of new features. Using the commands below, follow the instructions provided with the upgrade file.

In the Menu display, use the buttons on the front panel of the DVR or remote control, and press ▲▼◄► to select the **Software Upgrade** icon. Alternatively use the mouse to select this icon from the main Menu.




### 5.6.1 UPDATING SOFTWARE VIA DVR LOCAL DISPLAY

1. Insert a USB Thumb Drive with the new software into the USB connector on the front of the DVR.
2. Bring up the menu by pressing MENU/ESC on the front panel or remote or by right clicking the mouse.
3. Select the **Software Update** Icon from the Menu using the mouse, the remote or the front panel (Menu/ESC + Up/Down/Left/Right buttons).
4. USB Thumb Drive contents will show in the right hand window.
5. Select the appropriate new software file mouse and click the mouse or use enter key on front panel or remote.
6. Use mouse to select the check mark or press enter on remote or front panel. Software upgrade is indicated on the bottom scroll line. During this process the DVR must remain powered ON or the DVR will become inoperable.

**Note:** After the software is upgraded, the system will restart immediately. This process may take a few moments, after the DVR restarts login will be required.

***! Note: If updating from a software version below 7.75.53, the following steps must be performed before accessing the DVR from IE.***

### IE PLUGIN INTERFACE UPGRADE

The IE Plugin interface **MUST** be updated to ensure it can access the latest DVR software features.

1. Update the DVR software following the instructions listed above.
2. Download the ***Remove_WPS_IE_Plugin*** file from the SnapAV website. This file is also located in the software update zip file.
3. **Reboot** each computer that will be used to access or configure the updated DVR.
4. When the computer restarts, **Do Not Open IE**. Run the ***Remove_WPS_IE_Plugin*** file.
5. Open IE and access the updated Wirepath DVR. Perform Step 2, 3and 4 for all computers that will be used to access the DVR.
6. IE may initially block installation of the DVR Plugin. If so, review the prompt and allow the Plugin to be installed.
7. If prompted, allow installation of the C++ Distributable Package and IEPlugin.cab packages.
8. When Plugin installation is complete, log in to and configure the DVR as usual.

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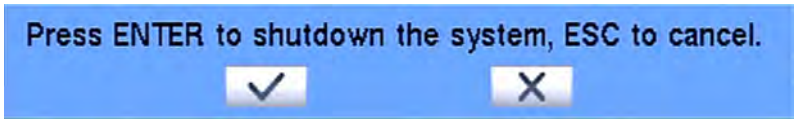
## 5.5 SYSTEM SHUTDOWN

**This menu is available to Administrators only.**

Always properly shutdown the DVR before moving it. The hard drive can be damaged if the DVR is moved before shutdown. Whatever state the DVR was in when it was properly shutdown, the DVR will reboot to this state (ex: split window display, etc).

**WARNING – When powering off the DVR, the following shutdown procedure must be used. Turning theDVR off or removing power without following this procedure may cause damage to the Hard Disk Drives.**

1. Access the menu by pressing the **MENU/ESC** button on the IR remote. Alternatively, the mouse can be used by right clicking to open the menu.
2. Login to the DVR and continue with the following steps.
3. Using the ▲▼◄► buttons, navigate to **Shutdown** . Press **ENTER** to select. Alternatively, the mouse can be used to select the icon. Once selected, a scrolling message will appear at the bottom of screen indicating that shutdown is in process.
4. Once the message "**Shutdown completed. You may turn off the system now.**" appears, it is safe to turn the DVR off using the power switch on the back of the DVR.
5. The DVR is now shutdown and safe to move or service.



# 6. SETUP MENU

**This menu is available to Administrators only.**

In the Menu display, use the buttons on the remote control, and press ▲▼◄► to select **Setup**, and then press **ENTER**.

**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the remote control to change the highlighted item. Alternatively, use the mouse to navigate.
- **ENTER**
  Press this button on the remote control to enter the detailed display of the highlighted option. Alternatively, use the left mouse button to select an option.
- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." Another method to escape is to use the mouse to "right-click," and exit the sub menu.

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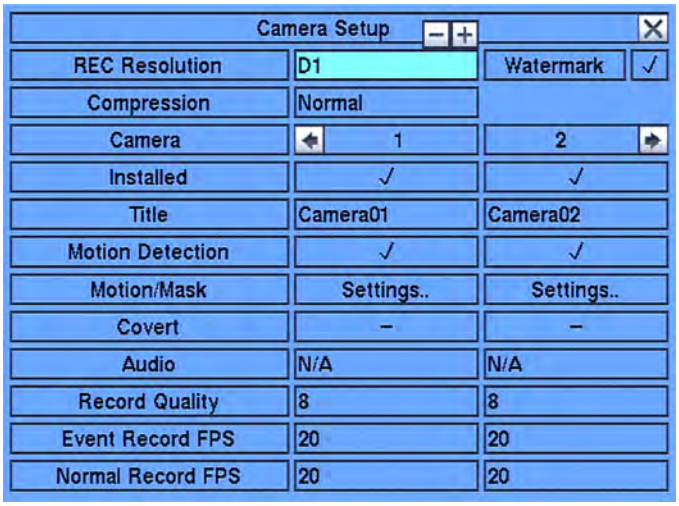
## 6.1 CAMERA SETUP

The **Camera Setup** menu allows the administrator to define additional attributes for each camera.

In the **Setup** menu, press ▲▼◄► on the remote to change the highlighted option to **Camera Setup**, and then press **ENTER** to display the **Camera Setup** menu.




**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the remote control to select an item. Alternatively, use the mouse to select an item. The display will scroll left/right if a camera is not shown on the screen.

- **NUMERIC** 1 2 3 4
  Press these buttons on the remote control to change the camera. Alternatively, use the mouse to select the desired camera.

- **COPY** (⎘)
  Press the **COPY** button on the remote control to copy all the settings (excluding **Title, Video Loss, Motion Detection and Audio**) - of the focus camera to all of the cameras.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click" and exit the sub menu.

**The following is a brief description for each item in the sub menu and its specific operations:**

- **TITLE**
  Name each camera with a unique identifying name up to eight characters maximum. Follow the Text Input method described in **Section 4.1** to modify this item.

- **VIDEO LOSS SETTINGS**
  Used to set specific actions when the DVR losses the video signal for the selected camera. Refer to **Section 6.2.1** for the details.

- **MOTION DETECTION**
  Enable or disable motion detection for the selected camera. Default setting enables this feature.
  *Note : This has no effect on the **Smart Search** function.*

**•MOTION SETTINGS**
Used to set specific actions for when the DVR detects motion. Please refer to **Section 6.2.2** for the details.

**•COVERT**
If a camera's covert function is enabled, the video of this camera can only be seen if the user has logged in an **Administrator**. The default setting is disabled.

**• DWELL TIME**
Used in conjunction with **Call By Event**, **Dwell Time** specifies how long the main display will show the camera on the screen. The **Dwell Time** can be set from 3 to 60 seconds

**• AUDIO**
Select to record audio from the AUDIO IN with the camera. All cameras are set to N/A by default.

**• RECORD QUALITY**
Select the record quality for each camera. Values range from 1-9, with 1 the lowest quality and 9 the highest quality. Note that the higher the quality setting, the larger the resulting file size.

**• EVENT RECORD FPS**
Set the Frames Per Second record rate for each camera when events such as motion trigger the camera to record. Settings for Post Record time determines how long the DVR will record after the event triggers recording. Press +/- buttons to select a value from 0 – 30.
**Warning: The total Event Record FPS should not exceed the system recording capacity of 120 FPS at CIF resolution, 120 FPS at Half-D1 resolution or 60 FPS at Full-D1 resolution. Confirm the system's total Event Record FPS by totaling the Event Record FPS for each camera connected to the system. The DVR will automatically lower the actual record rate (once the total maximum FPS is reached) if set beyond the system's capabilities.**

*Note: The higher the FPS setting for a camera, the more fluid the motion on playback. A slower FPS setting could result in "choppy" video during playback. As a reference, live video equals 30 FPS. In surveillance, 15 FPS is recognized as very good quality video, while 7 FPS is typically sufficient for most cases.*

**• PRE-RECORD FPS**
**Pre-Record FPS** is the frames per second pre-record rate for each camera when events such as motion, video loss or alarm inputs trigger the camera to record. For this DVR, the **Pre-Record FPS** is always the same as Event Record FPS. Settings for Pre-Record time determine how much time the DVR will record before the event triggers recording. Please refer to **Section 6.2.1**, **Section 6.2.2** and **Section 6.3** for Pre-record time.

**• NORMAL RECORD FPS**
Unless disabled in the schedule (see Section xx), the DVR is always recording. If there is no event triggering the DVR to record (such as motion), the DVR is still recording and the recording is referred to as Normal Record. Set the FPS for each camera to be recorded by pressing +/- buttons to select the value from a minimum of 0 to a maximum equal to the Event Record setting.

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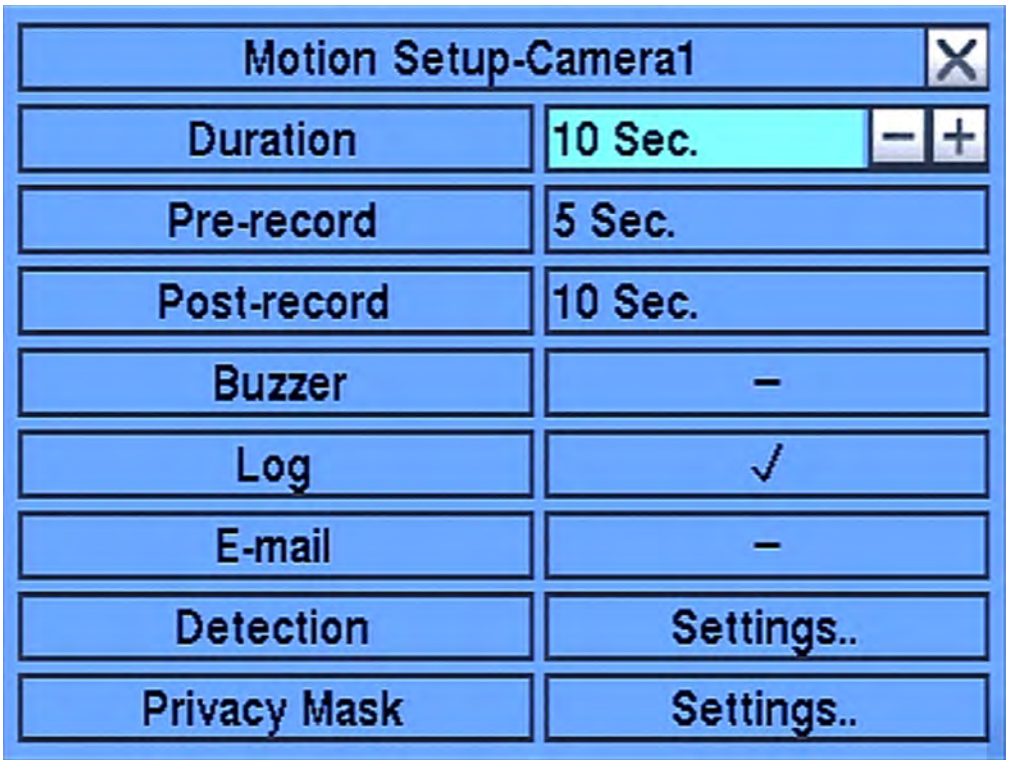
### 6.1.1 MOTION SETUP

**Motion Setup** allows the administrator to define how the system responds when motion is detected for the camera.

In the **Camera Setup** menu, highlight **Motion Mask** and press the **ENTER** button on the remote control to display the Motion Setup sub menu for the selected camera.




**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.

- **NUMERIC** 1 2 3 4
  Press these buttons on the remote control to change the camera.
  Alternatively, use the mouse to select the desired camera.

- **COPY ( )**
  Press the **COPY** button on the remote control to copy the Video Loss settings of the focus camera to all of the cameras.

- **ESC**
  Press the **ESC** button on the remote control to escape and return to the main menu. Alternatively, use the mouse by right clicking or selecting the "**X**" in the current dialog window. If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click" and exit the sub menu.

**Following is a brief description for each item and its specific operations:**

- **DURATION**
  Set the length of time the buzzer and the corresponding Alarm Out relay will remain triggered once video loss is detected for this camera. The Buzzer and Alarm Out relay will reset immediately once video signal is restored. Press +/- buttons to adjust the value from 3 seconds to 60 minutes or '-' for indefinite requiring an Alarm Reset.

- **PRE-RECORD**
  Pre-Record defines how much time the DVR will record before video loss is detected. The Pre Record FPS set in **Section 6.2** determines the frame rate of this recording. Press +/- buttons on the remote control to adjust the value from 0 to 10 seconds. Alternatively, use the mouse to adjust this setting.

*Note that the actual pre-record time may be shorter than the value set if the total size of the pre-record video exceeds the pre-record video buffer.*

- **POST-RECORD**
  Define how much time the DVR will record after motion is detected. The Post Record FPS set in **Section 6.2** determines the frame rate of this recording. Press +/- buttons on the remote control to adjust the value from 0 to 60 minutes. Alternatively, use the mouse to adjust this setting.

- **DETECTION**
  See **6.1.1.1 Detection Settings** for detail on the available settings.

- **BUZZER**
  By default, the internal buzzer is enabled to sound when video loss for the camera is detected. Highlight this setting and press ENTER or +/- to enable or disable this item. Alternatively, use the mouse to left-click on this item.

- **LOG**
  By default, the DVR will log when video loss is detected to the Event Log (see Section xx). Highlight this set ting and press ENTER or +/- to enable or disable this item. Alternatively, you can use the mouse by left clicking in the box next to Buzzer in the current dialog window.

- **E-MAIL**
  This DVR can send an email message to a predefined email address in the event video loss is detected for this camera. Highlight this setting and press ENTER or +/- to enable or disable this item. Alternatively, use the mouse to left-click on this item. The default setting is disabled. See **Section 6.4.1** for more information on e-mail.

- **DETECTION SETTINGS**
  See **Section 6.1.1.1** Detection Settings for detail on the available settings.

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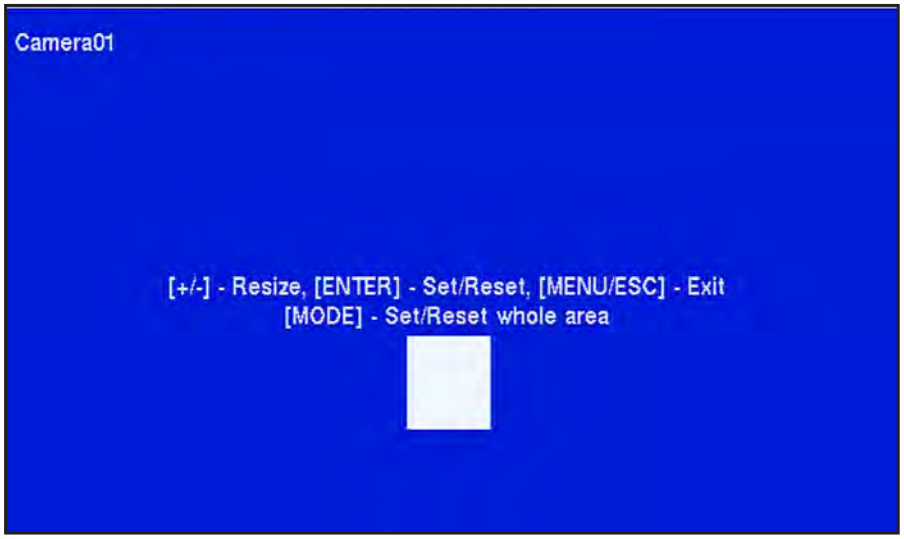
### 6.1.1.1 DETECTION SETTINGS

The **Detection Setting** sub menu is used to customize motion detection settings including the motion detection area(s) and sensitivity. In the **Motion Setup** menu, highlight **Settings** in **Detection** and press the **ENTER** button on the remote control to display the Motion Detection Settings sub menu for the selected camera. Once in the Motion Detection setting sub menu, a video window is displayed with the area divided into grids.

- Grids **gray** in color indicate the area which **WILL** be used for motion detection.
- **Transparent** grids indicate the area that will **NOT** be used for motion detection.
- **Yellow** grids indicate the currently selected area referred to as the **Mask** area.




*Note: The defined detection area and sensitivity are also used for the **Smart Search** feature (**Section 8.3**). **Smart Search** will only use information stored "inside" of the detection area. There will not be any motion information stored by the DVR that is "outside" of the detection area. Even if motion detection is disabled for a given camera, it is recommended to enable the entire area if the **Smart Search** feature may be used.*

**The following is a brief description for each item in the sub menu and its specific operations:**

- **NUMERIC** 1 2 3 4
  Press these buttons on the remote control to change the camera.
  Alternatively, use the mouse to select the desired camera.
- **▲▼◄►**
  Press these buttons on the remote control to move the **Mask** window (grids **yellow** in color).
  Alternatively, use the mouse to select and move the **Mask** window (grids **yellow** in color) by "left clicking" and dragging the mouse over the desired area.
- **+/-**
  Press these buttons on the remote control to resize the **Mask** window
  (grids **yellow** in color). Alternatively, use the mouse to select and move the **Mask** window (grids **yellow** in color) by "left-clicking" and dragging the mouse over the desired area.
- **ENTER**
  Press this button on the remote control to **Set/Reset** the area of the
  Mask window (grids **yellow** in color). Additional areas may be selected and added to the detection area. Alternatively, use the mouse to select the **Set/Reset** icon and adjust the Mask window (grids **yellow** in color).
- **MODE**
  Press this button on the remote control to **Set/Reset** the whole video area.
  Alternatively, use the mouse to select this icon.

- **SEQ / CALL**
  Press these buttons on the front panel of the DVR or remote control to decrease **(SEQ)** or increase **(CALL)** the **Sensitivity** of the motion detection area of this camera from 1 - 10 (**1** is least sensitive and **10** is most sensitive). Alternatively use the mouse to select this icon and adjust the sensitivity. We recommend that the default setting (3) be used to start and adjusted as needed.

- **Volume +/- (🔊+)**
  Press these buttons on the remote control to increase or decrease the number of grids required to detect motion before the DVR will trigger motion detection recording and any associated events. Alternatively, use the mouse to select this icon and adjust the number of grids.

- **SEARCH**
  Press this button on the remote control to test the motion detection of this camera. Grids in **green** indicate that area that will detect motion. When motion is detected, these grids will change in color to **red**. Press this button again to exit testing. Alternatively, use the mouse to select this icon to enter and exit testing mode.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively, use the mouse to exit the sub menu by clicking on the "**X**."
  If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

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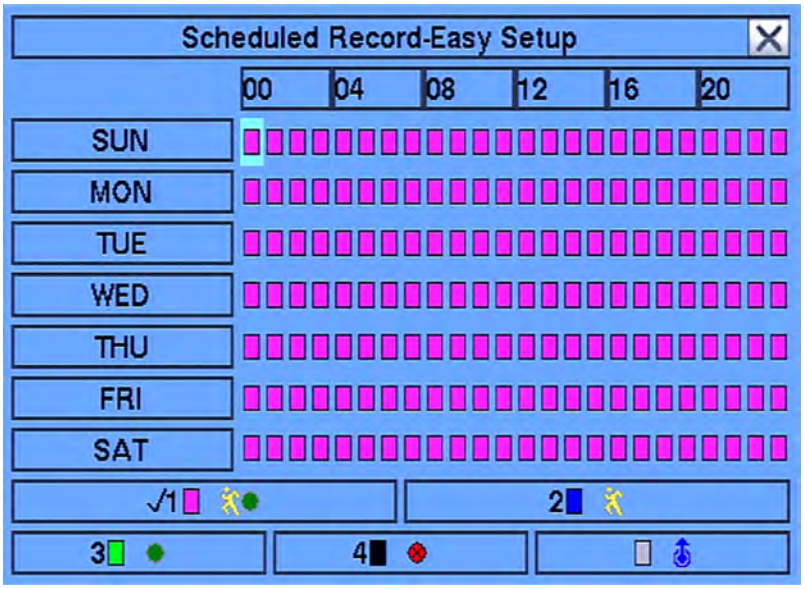
## 6.1.2 SCHEDULED RECORD

Within the **Scheduled Record** menu, **Easy Setup** allows the administrator to use a more visual method to setup the scheduled record of the system.

Press the **Mode** button on the remote control to select **Easy Setup** from the **Scheduled Record** menu. Alternatively, use the mouse to select this sub menu.




**Recording options include:**

- **Pink:** Alarm, Motion and Normal Video and Audio Recording (Default setting)
- **Purple:** Alarm and Motion Video and Audio Recording only
- **Red:** Alarm Video and Audio Recording only
- **Blue:** Motion Video and Audio Recording only
- **Green:** Normal Video and Audio Recording only
- **Black:** No recording at all

**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the remote control to change the focus recording type.
  Alternatively, use the mouse to select the focus recording type.

- **Numeric 1-6**
  Press these buttons on the remote control to select one of the **Recording Modes** listed above.
  Or press the **ENTER** button on the remote control when the focus is on the appropriate Recording Mode to activate it. Alternatively, use the mouse to select the appropriate Recording Mode.

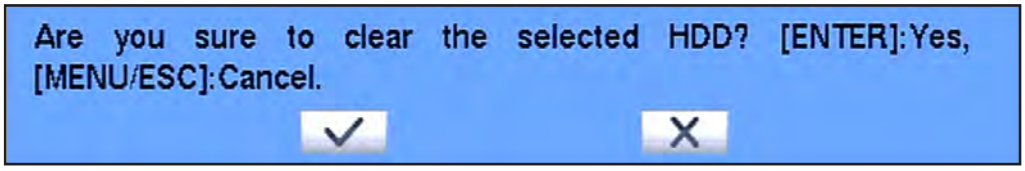
- **+/-**
  Press these buttons to set the focus interval in increments of one hour (one grid for each hour) to the active Recording Mode. Or press the **ENTER** button on the remote control set the focus interval to the active Recording Mode. Alternatively, use the mouse to left-click and then drag the mouse to select the appropriate grids.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the Scheduled Record Setup display menu. Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." **Once Easy Setup is complete, the time segments for each conditional in Scheduled Record will be updated accordingly**.

### 6.1.3 HDD CLEAR

The **HDD Format/Clear** menu allows the administrator to format and/or clear the hard drive.

In **HDD Setup** display, press **MODE** to display **HDD/Clear** screen as shown.




**To navigate and operate this menu:**

- **SEQ**
  Press the **ENTER** button on the remote to **Clear** (delete all files) the hard drive. A confirmation dialog box will be displayed on the screen. Using the remote, press **ENTER** to confirm or **ESC** to cancel. Alternatively, use the mouse to make these selections.

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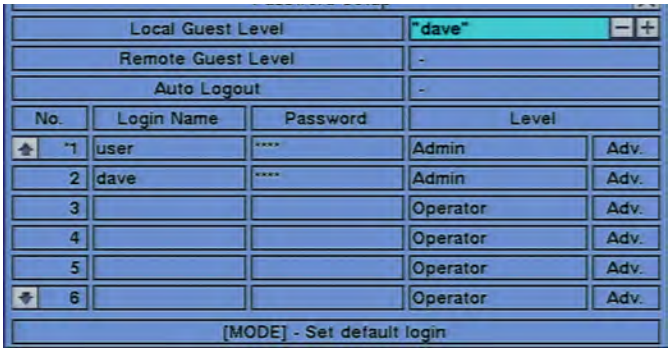
## 6.2 PASSWORD SETUP

The Password Setup allows the administrator to add new users, delete existing users, and/or modify the user login names, passwords, and levels of access.

In the Setup Menu display, press ▲▼◄► on the front panel of the DVR or on the remote to change the highlighted option to Password, and then press ENTER to display Password Setup as shown.




The DVR allows up to **18** user accounts. There are three default user levels in the system:

- **Operator-** The lowest level, an Operator can only view live video and audio
- **Supervisor-** In addition to live video viewing, a Supervisor can review playback video and audio and has permission to archive files
- **Administrator-** The highest level is Administrator and has access to all options.
- **" – " -** No remote access allowed
- **UserName-** In addition to the three default levels, an administrator can also set **Customized** levels of access for each user as described in the following paragraphs.

**The factory preset Administrator level login name is user, the password is 1234. We recommend changing this to block unwanted access to the DVR.**

**To navigate and operate this menu:**

- **▲▼◄►**

Press these buttons on the front panel of the DVR or remote control to select an item. Alternatively use the mouse to select an item.

- **MODE**

Press the **Mode** button on the front panel of the DVR or on the remote control to select a user as the **default** at login. An asterisk (*) will be shown preceding the number for the default login user. This user's login name and password will be the default credentials populated in the **Login/Logout** dialog box so the user doesn't have to enter text to login the system. This feature is enabled by default. Press the **Mode** button to deselect the user as the default login user. Alternatively use the mouse to select and deselect default log in users.

**WARNING – This feature could allow unwarranted access to the DVR. Caution is strongly advised when enabling this feature. Setting a default login means that the user login name and password will automatically populate the Login/Logout box. This could leave the system vulnerable to unauthorized use. It is recommended to deselect a default login so users are required to provide credentials to access the DVR.**

- **ESC**

Press the **ESC** button on the front panel of the DVR or remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the front panel of the DVR or remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

**The following is a brief description for each item in this menu and its specific operations:**

**WARNING – The following 2 features could allow unwarranted access to the DVR. Caution is strongly advised when enabling these features.**

**Important Note: The following 2 features were added in software v7.77.53 and were listed as Guest level in previous versions. When the DVR is updated, the setting previously set in Guest Level will show as Remote Guest level. Verify that it is set to the desired level.**

**• Local Guest Level**
Allows or restricts access to the DVR by Guests accessing the DVR through Local interfaces (DVR GUI via front panel buttons, IR remote control or home automation Ethernet control) without a dedicated Login. The option selected determines the level of access a Guest will have.

**"-" (Default)**No Guest Access Allowed (Does not prevent access by User with login credentials)
**Administrator** Provides full access to the DVR allowing for viewing of all cameras and modification to all settings. Use this setting with caution.
**Supervisor** Provides access to view and control all cameras, Search, Archive and modify basic settings.
**Operator** Provides access to view and control all cameras. No access to Search or settings is provided.
**UserName**Provides customized access to the features as defined in the Advanced Settings for a particular user. See **Adv**: below for more information.

***Note: If an RS-232 or IP control system is being used, the Default setting allows the system to control the DVR, but prevents Guest access to DVR features. With this setting users would be required to enter a Login and Password to view cameras, change settings, etc.***

**• Remote Guest Level**
Allows or restricts access to the DVR by Guests accessing the DVR from the Internet Explorer plugin interface without a dedicated Login. The option selected determines the level of access a Guest will have.

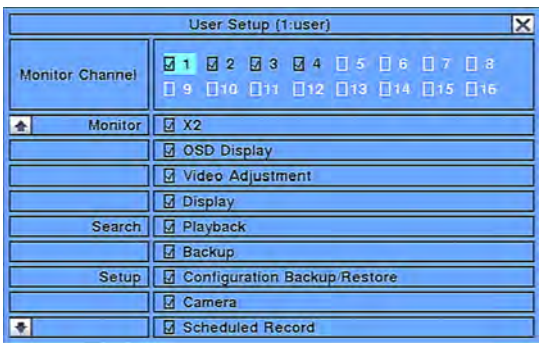
**"-" (Default)-** No Guest Access Allowed
**Administrator-** Provides full access to the DVR allowing for viewing of all cameras and modification to all settings. Use this setting with caution.
**Supervisor-** Provides access to view and control all cameras, Search, Archive and modify basic settings.
**Operator-** Provides access to view and control all cameras. No access to Search or settings is provided.
**UserName-** Provides access to the features as defined in the Advanced Settings for a particular user. See Adv: below for more information.

**Note: It is recommended that Remote Guest Level be set to the the default "-" to prevent unwanted access to the DVR from outside sources.**

**• Auto Logout**
If there is no user operation in the time selected from 1 minute to 24 hours, the user will automatically be logged out. Select "-" to disable this feature (default setting). Press +/- buttons on the front panel of the DVR or on the remote control to change this setting. Alternatively use the mouse to set this value.
**• Login Name**
Enter a unique Name for each user. Follow the Text Input method described in Section 4.1 to enter this information.
**• Password**
Enter a unique Password (numbers only) for each user. Follow the Text Input method described in Section 4.1 to enter this information.
**• Level**
Select the appropriate access level (Administrator, Supervisor, Operator, or Customized) for each user. Press +/- buttons on the front panel of the DVR or on the remote control to change this level. Alternatively use the mouse to set the level.

**"-" (Default)-** No Guest Access Allowed
**Administrator-** Provides full access to the DVR allowing for viewing of all cameras and modification to all settings. Use this setting with caution.
**Supervisor-** Provides access to view all control all cameras, Search, and modification of basic settings.
**Operator-** Provides access to view all control all cameras, No access to Search or settings is provided.
**Customized-** Provides access to the features defined in the Advanced Settings for the user. See Adv: below for more information.

**• Adv .**
For Customized access per user, press ENTER on the front panel of the DVR or on the remote control to display the Advanced User Setup as shown in Section 6.4.2 below.

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### 6.2.1 ADVANCED USER SETUP

The **Advanced User Setup** allows the administrator to setup each user's detailed access rights to the system**.**

**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the front panel of the DVR or on the remote control to move the focus box. If the selected item is not shown on the screen, the screen will scroll up or down by pressing the corresponding button. Press the **ENTER** button to enable or disable a feature.
- **ESC**
  Press the **ESC** button on the front panel of the DVR or on the remote control to escape from this screen and return to **Password Setup** display. Alternatively right-click the mouse. **User Setup** contents will be updated accordingly.

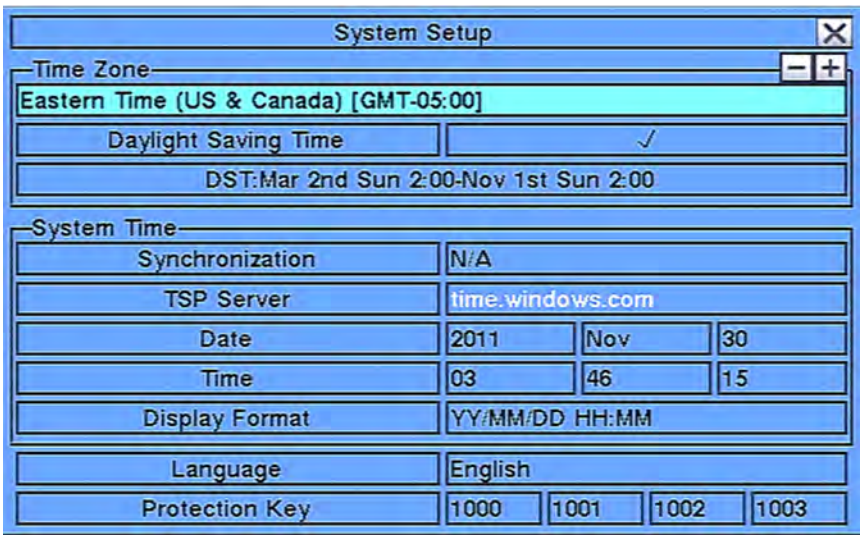
**The following is a brief description for each item in this menu and its specific operations:**
Press **ENTER** or **+/-** on the front panel of the DVR or on the remote control to check or uncheck each item. Alternatively use the mouse to enable or disable each item.

- **Monitor Channel 1-8**
  Select Channels (cameras) the user can monitor.
- **X2**
  Allows the user to zoom live and playback video.
- **PTZ**
  Allows the user to access PTZ features if supported by the camera.
- **VOLUME**
  Allows the user to change volume.
- **VIDEO ADJUSTMENT**
  Allows the user to adjust the video
- **VGA DISPLAY**
  Allow the user to change VGA settings.
- **PLAYBACK**
  Allows the user to view playback video and audio.
- **BACKUP**
  Allows the user to backup video and audio.
- **CONFIGURATION BACKUP/RESTORE**
  Allows the user to backup or restore the DVR configuration.
- **SETUP CAMERA**
  Allows the user access to Camera Setup.
- **SETUP ALARM**
  Allows the user access to Alarm Setup.
- **SETUP SEQ DISPLAY**
  Allows the user access to Sequence Display setup.
- **SETUP SCHEDULED RECORD**
  Allows the user access to Scheduled Record setup.
- **SETUP HDD**
  Allows the user access to Hard Drive setup.
- **SETUP PASSWORD**
  Allows the user access to Password Setup.
- **SETUP SYSTEM**
  Allows the user access to System Setup.
- **SETUP RS-232/422/485**
  Allows the user access to RS485 setup.
- **SETUP NETWORK**
  Allows the user access to Network Setup.
- **SETUP FACTORY DEFAULTS**
  Allows the user to restore factory defaults to all setup related configurations.
- **SOFTWARE UPGRADE**
  Allows the user upgrade the DVR software.
- **SHUTDOWN**
  Allows the user to Shutdown the DVR.

## 6.3 SYSTEM SETUP

The **System Setup** allows the administrator to set the system time, time zone, time synchronization, language, etc.

In the **Setup Menu** display, press ▲▼◄► on the remote to change the highlighted option to System, and then press **ENTER** to display **System Setup** as shown.




**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.
- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu.
  Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes.
  Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving.
  Another method to escape is to use the mouse to "right-click" and exit the sub menu.

**The following is a brief description for each item in this menu and its specific operations:**

- **TIME ZONE**
  Press the **+/-** buttons on the remote control to select the appropriate time zone. Alternatively, use the mouse to select the time zone.
  The default setting is Eastern Standard Time.
- **DAYLIGHT SAVING TIME**
  Press **ENTER** or **+/-** on the remote control to enable or disable this item.
  Alternatively, use the mouse to enable or disable this feature.
- **SYSTEM TIME**
  - **Synchronization**
    Press **ENTER** or **+/-** buttons on the remote control to enable or disable time synchronized with a **TSP Server**. Alternatively, use the mouse to enable or disable this feature. The default setting is disabled.
  - **TSP Server**
    If Time Synchronization is enabled, select a **TSP** (Time Synchronization Protocol) **Server**. The DVR will synchronize with the specified TSP server at the system preset interval. Follow the Text Input method described in **Section 4.1** to modify this setting. Alternatively, use the mouse and the pop-up keyboard to enter the TSP server.

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- **Date**
  System **Date**. Press **+/-** buttons on the remote control to modify the date.
  Alternatively, use the mouse to set the date.
- **Time**
  System **Time**. Press **+/-** buttons on the remote control to modify the time.
  Alternatively, use the mouse to set the date.
- **Display Format**
  Select the format used to display the system time in the **System Status Bar**. Press **+/-** buttons on the remote control to change the format. Alternatively, use the mouse to select the format.

• **LANGUAGE**

Press **+/-** buttons on the remote control to change the language.
Alternatively, use the mouse to select the appropriate language.

*Note: If the selected language is changed, the user will be asked to reboot the system for the newly selected language to take effect.*

• **PROTECTION KEY**

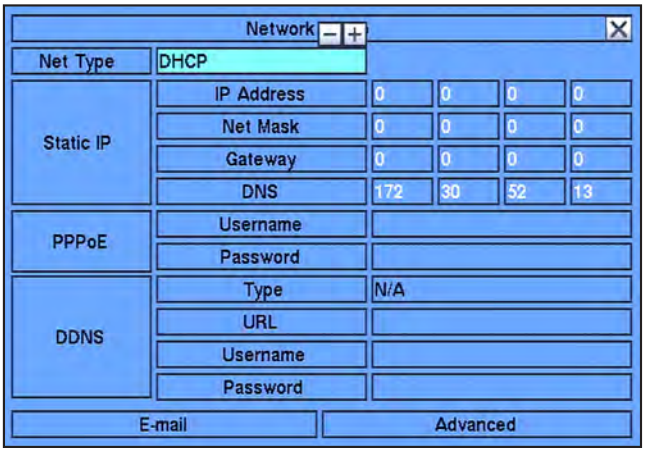
The **Protection Key** is used for secure remote access of the system by various software. Follow the Text Input method described in **Section 4.1** to modify these items. Alternatively, use the mouse and the pop-up keyboard to enter the Protection Key.

*Note: The **Protection Key** will be used by some software for authentication when a remote computer wants to connect with the system through the Ethernet interface, either LAN or internet. The same protection key must be entered to install the remote software if it is to be used to access the DVR.*

## 6.4 NETWORK SETUP

The **Network Setup** allows the administrator to setup all Ethernet network related parameters. Consultation with the network administrator may be required to set these parameters correctly.

In the **Setup Menu** display, press ▲▼◄► on the front panel of the DVR or on the remote to change the high-lighted option to **Network**, and then press **ENTER** to display **Network Setup** as shown.




**To navigate and operate this menu:**

• ▲▼◄►
Press these buttons on the front panel of the DVR or remote control to select an item.
Alternatively use the mouse to select an item.

• **ESC**
Press the **ESC** button on the front panel of the DVR or remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the front panel of the DVR or remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click" and exit the sub menu.

**The following is a brief description for each item in the sub menu and its specific operations.**

Please follow the Text Input method described in Section 4.1 to modify these items. Alternatively use the mouse and the pop-up keyboard to enter these settings. Consultation with the network administrator may be required for these settings.

• **Net Type**
Press +/- buttons on the front panel of the DVR or on the remote control to change the **Net Type**. Alternatively use the mouse to change this setting. Options include: **Static IP**, **PPPoE**, or **DHCP**. **DHCP** can only be used for intranet (LAN) access, while **Static IP** and **PPPoE** can be used for both internet & intranet access. The default setting is **DHCP**.

• **IP Address**
Enter an Ethernet IP Address for the DVR. This address should be static and not conflict with any other IP address on the LAN.

• **Net Mask**
Enter the Net Mask for the IP address.

• **Gateway**
Enter the Gateway IP address for the system.

• **DNS**
If using DNS, enter the Domain Name Server address for the system. (Same address as Default Gateway)

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• **Password**
If PPPoE is used, enter the **Password** for the system.

• **DDNS Type**
Starting with Version 7.75.53 a new selection will appear for WirepathDNS. It is strongly recommended that this option is used to simplify configuration.

Using the WirepathDNS is easy. Select WirepathDNS from the list and enter the client name or other unique string in the URL. When exiting the Network menu, confirm the changes. A DDNS service is setup automatically. See **DVR Local Display Menu Setup** in **Appendix E – WirepathDNS Setup** for details on using WirepathDNS.

• **URL**
Enter the DDNS URL if DDNS is used. – Enter Client Name or System Name to identify the DVR.

• **DDNS Username**
Enter the DDNS Username if DDNS is used. – Not used unless an existing DDNS other than WirepathDNS service is configured.

• **DDNS Password**
Enter the DDNS Password if DDNS is used. – Not used unless an existing DDNS other than WirepathDNS service is configured.

• **E-mail**
Press ENTER on the front panel of the DVR or on the remote to display the E-mail Setup menu. Alternatively use the mouse to enter this menu. Refer to Section 6.4.1 for details.

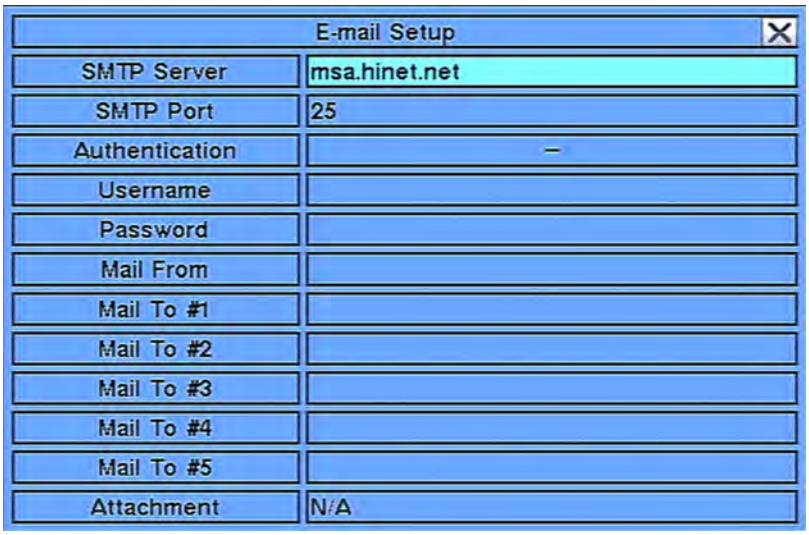
• **FTP**
Press ENTER on the front panel of the DVR or on the remote to display the FTP Setup menu. Alternatively use the mouse to enter this menu. Refer to Section 6.4.3 for details.

• **ADV.**
Press ENTER on the front panel of the DVR or on the remote to display the Advanced Network Setup menu. Alternatively use the mouse to enter this menu. Refer to Section 6.4.2 for details.

## 6.4.1 E-MAIL SETUP

The **E-mail Setup** allows the administrator to set E-mail related parameters. When an event occurs and E-mail is enabled for the corresponding action, an e-mail will be sent based on the parameters set in this menu.

In **Network Setup**, press **ENTER** to display **E-mail Setup** as shown when the highlighted option is **E-mail**.



**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.
- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu.
  Alternatively, use the mouse to exit the sub menu by clicking on the "**X**."
  If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving.
  Another method to escape is to use the mouse to "right-click," and exit the sub menu.

**The following is a brief description for each item in the sub menu and its specific operations:**

Follow the Text Input method described in **Section 4.1** to modify these items. Alternatively, use the mouse and the pop-up keyboard to enter these settings. Consultation with the network administrator or the email provider may be required for these settings.

- **SMTP SERVER**
  Enter the **SMTP** mail server name.
- **SMTP PORT**
  Enter the **SMTP Port** for E-mail transmission. The default value is **25**.
- **AUTHENTICATION**
  Press **ENTER** or **+/-** on the remote control to enable or disable this item depending on whether the SMTP mail server requires authentication. Alternatively, use the mouse to enable or disable this setting.
- **USERNAME**
  Enter the **Username** to the E-mail service.
- **PASSWORD**
  Enter the **Password** to the E-mail service.
- **MAIL FROM**
  Enter the E-mail address of the associated email account.

  *Note: This setting is specific and must match E-mail client settings used to access an E-mail account or the E-mail feature will not be operable. Do not enter generic text in this field.*
- **MAIL TO #1-5**
  The DVR can send E-mails originated from triggered events to up to five different E-mail addresses.
  Enter the appropriate E-mail addresses in these fields.
- **ATTACHMENT**
  Press **+/-** buttons on the remote to attach a picture from the corresponding camera to E-mail being sent.
  Optional picture sizes for the attachment can be set to **Original** to match the recorded resolution or **QCIF** (Quarter CIF is 176 x 144 pixels) to reduce the size of the attachment. Select **N/A** to disable attachments.

  *Note: If the DVR's resolution is set to Half D1, picture attachments in the E-mail will appear "squished" since the DVR reduces the horizontal lines by half (therefore reducing storage space and bandwidth requirements). This only effects E-mails and not live or recorded .h264 playback video.*

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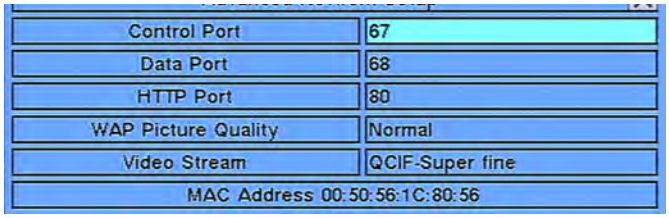
## 6.4.2 ADVANCED NETWORK SETUP

The **Advanced Network Setup** allows the administrator to set advanced network parameters use for connection from remote devices such as PCs and Smart phones. Consultation with the network administrator may be required for these settings.

In Network Setup, press **ENTER** to display **Advanced Network Setup** as shown when the highlighted option is **Adv**.




### To navigate and operate this menu:

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.
- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the main menu. Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

### The following is a brief description for each item in this menu and its specific operations:

Follow the Text Input method described in **Section 4.1** to modify these items. Alternatively, use the mouse and the pop-up keyboard to enter these settings. See the Router Setup document located in the support tab on the product page for more information on **Router Setup** and how it relates to these settings.

- **CONTROL PORT**
  Enter the **Control Port** for remote access. The default value is **67**.
- **DATA PORT**
  Enter the **Data Port** for remote access. The default value is **68**.
- **HTTP PORT**
  Enter the **HTTP (web page) port** for remote access. The default value is **80**.
- **WAP PICTURE QUALITY**
  **WAP** (Wireless Application Protocol) is a simple standard for remote devices (such as Smartphones) to access the DVR. Press **+/-** buttons on the remote control to change the value the WAP picture quality if WAP access will be required by remote devices. See **Section 9.7** for more information on WAP.
- **VIDEO STREAM**
  Press the **+/-** buttons on the remote to change the video quality sent to remote devices such as PCs and Smartphones. Alternatively, use the mouse to change this setting. If **Record** is selected, the DVR will stream video at the same resolution as the Record setting (See **Section 6.1**). Dual Streaming allows for remote devices to receive lower resolution at higher speeds to the device (see **Section 9.4**). This is especially helpful for remote devices on slower network. Reducing resolution sent to these devices will speed up the delivery of the video. To enable Dual Streaming, select one of the four levels of **QCIF** (**Fair** is the lowest quality while **Superfine** is the highest quality). If Dual Streaming is used, the total system recording rate will be reduced.

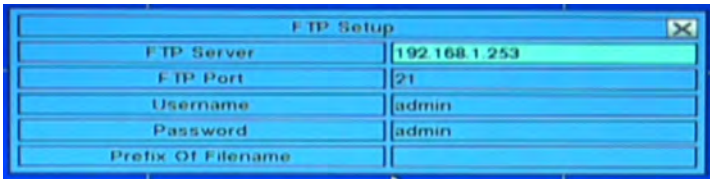
  *Note: To use Dual Streaming in Internet Explorer, the user must select the **Extra** Video Stream option in the **Modify Menu** of the **Device List** (See **Section 9.1**).*

  - **QCIF Fair –** Lowest QCIF Resolution
  - **QCIF Normal –** Medium QCIF Resolution
  - **QCIF Fine –** High QCIF Resolution
  - **QCIF Super fine –** Best QCIF Resolution

### 6.10.2 FTP SETUP

**FTP Setup** allows the administrator to set FTP related parameters. When an event occurs and FTP is enabled for the action, the recorded video and audio for that event will be sent to the FTP server based on the parameters set in this menu.

In Network Setup, press **ENTER** to display **FTP Setup** as shown when the highlighted option is **FTP**.




**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the front panel of the DVR or remote control to select an item. Alternatively use the mouse to select an item.
- **ESC**
  Press the **ESC** button on the front panel of the DVR or remote control to escape from this menu and return to the main menu. Alternatively use the mouse to exit the sub menu by clicking on the "**X**." If the contents in this menu have been modified, a **Save** dialog box will be displayed requesting the user to save the changes. Press **ENTER** on the front panel of the DVR or remote control to exit and save, **ESC** to exit without saving. Another method to escape is to use the mouse to "right-click," and exit the sub menu.

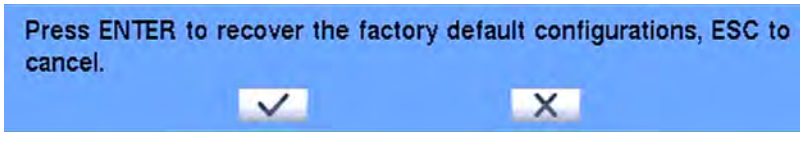
**The following is a brief description for each item in this menu and its specific operations:**

Please follow the Text Input method described in **Section 4.1** to modify these items. Alternatively use the mouse and the pop-up keyboard to enter these settings. Consultation with the network administrator or the FTP server provider may be required for these settings.

- **FTP SERVER**
  Enter the **FTP Server** web/IP address.
- **FTP PORT**
  Enter the **FTP Port** number. The default value is **21**.
- **USERNAME**
  Enter the **Username** for the FTP server.
- **PASSWORD**
  Enter the **Password** for the FTP server.
- **PREFIX OF FILENAME**
  Enter the **Prefix of the Filenames** for files sent to the FTP server. If this box is left empty, the filenames will start with "cam" If a prefix such as "Prefix" is entered, the filenames will start with "Prefix-cam." For another example, if the prefix is "DVR01", then the filenames will begin with "DVR01-cam."

## 6.5 FACTORY DEFAULT

To reset all the DVR settings to factory default values, press ▲▼◄► on the remote control to change the highlighted option to Factory Default and then press **ENTER**. Alternatively, use the mouse to select **Factory Default**. Once selected, a confirmation dialog will be shown, press **ENTER** again to make the changes. Or select **ESC**, or right-click the mouse to exit without resetting the DVR.




**WARNING: All settings will be lost and replaced with factory default settings.**
**Settings cannot be recovered after a Factory Default.**

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# 7. SEARCH/PLAYBACK/ARCHIVE

**This menu is available to Administrators and Supervisors only.**

There are four ways to search the recorded video and audio for playback:

- Search by time
- Search by event
- Smart Search
- Search archived files

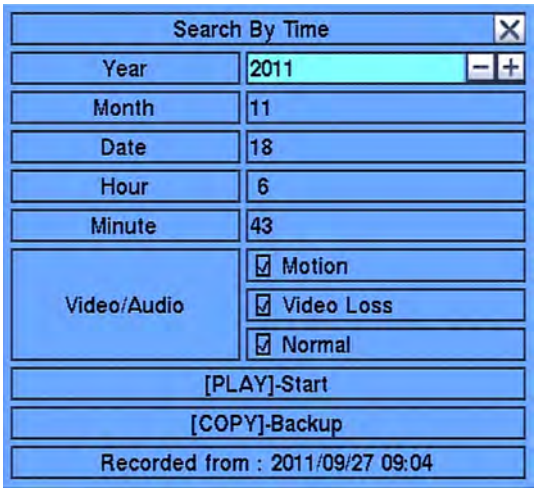
Use the **Search** button on the remote control to activate the **Search Menu**. Alternatively, use the mouse to select the **Search Icon** from the **Control Bar**.

**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.
- **ENTER**
  Press the **ENTER** button on the remote control to enter the corresponding **Search** menu.
  Alternatively, use the mouse to select the corresponding **Search** menu icon.
- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the video display.
  Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." Another method to escape is to use the mouse to "right-click," and exit the menu.

## 7.1 SEARCH BY TIME

The **Search By Time** feature allows the user to search for recorded video and audio based on time.




**Tip:** When the screen is opened the oldest record time is displayed at the bottom labeled as Recorded From

**To navigate and operate this menu:**

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.
- **Play (►/II)**
  Press the **PLAY** button on the remote control to begin playback of the recorded video and audio using the defined search time and video type. Alternatively, use the mouse to select the **PLAY** button.
  If there is not camera currently in playback mode then all of the cameras in the current split window will begin playback. See **Section 8.5** for more details.
- **Copy ( )**
  Select the **COPY** button from the remote control to backup **(copy)** the selected type of recorded video (beginning from the **Search Time**) to the connected backup device. The **Backup** menu (described in the **Archive** portion of **Section 8.6**) will be displayed. Alternatively, use the mouse to select the **COPY** button.

**The following is a brief description for each item in the sub menu and its specific operations:**

- **SEARCH TIME**
  Select the **Year, Month, Date, Hour, Minute** for the recorded video and audio. Playback (or backup) will begin from the time entered in this menu. Use the **+/-** buttons on the remote control to modify each item. Alternatively, use the mouse to enter the **Search Time**.
- **VIDEO/AUDIO**
  Select the types of recorded video to search: **Alarm, Motion, Video Loss, Normal**. Press **ENTER** or **+/-** buttons on the remote control to check or uncheck the corresponding video type. Alternatively, use the mouse to check the appropriate video type(s).

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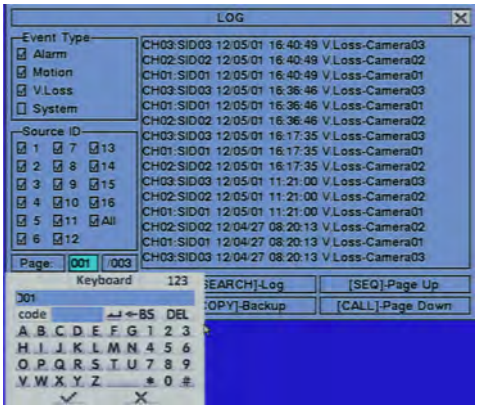
## 7.2 SEARCH BY EVENT / LOG DISPLAY

The **Search By Event** feature allows the user to search for recorded video and audio based on the type of event recorded by the DVR.




**Tip:** You can jump to a log page quickly by selecting the page box with the mouse and typing in the desired page number. This is useful when you need to see the last page of recordings.

The DVR will store up to 6000 of the most recent event logs. There are four different types of event logs: **Alarm**, **Motion**, **Video Loss** and **System**.

### To navigate and operate this menu:

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.
- **ENTER**
  Press the **ENTER** button on the remote control to select the highlighted log.
  Alternatively, use the mouse to select the corresponding **Search** menu icon.
- **MODE**
  Press the **Mode** button to refresh the log display. If there are new event logs since the screen was displayed, the log list will be updated accordingly. Alternatively, use the mouse to select the **Refresh** option.
- **SEARCH**
  Press the **Search** button to **Log** (export) the event log to a backup device.
  Alternatively, use the mouse to select the **Log** option.
- **SEQ**
  Use the **SEQ** button on the remote control to scroll the Event Log **Page Up**. Alternatively, use the mouse to select the **Page Up** option.
- **CALL**
  Use the **CALL** button on the remote control to scroll the Event Log **Page Down**.
  Alternatively, use the mouse to select the **Page Down** option.
- **Numeric**
  Press the numeric buttons on the remote control followed by the **ENTER** button to select the display page of the event logs. Alternatively, use the mouse to click the **Page Number** box.
- **Play (►/II)**
  Press the **PLAY** button on the remote control to begin playback of the recorded video and audio using the defined search time and video type. Alternatively, use the mouse to select the **PLAY** button. If there is not a camera currently in playback mode, all of the cameras in the current split window will begin playback. See **Section 8.5** for more details.
- **Copy ( )**
  Select the **COPY** button from the remote control to backup **(copy)** the selected type of recorded video (beginning from the **Search Time**) to the connected backup device. The **Backup** menu (described in the **Archive** portion of **Section 8.6**) will be displayed. Alternatively, use the mouse to select the **COPY** button.

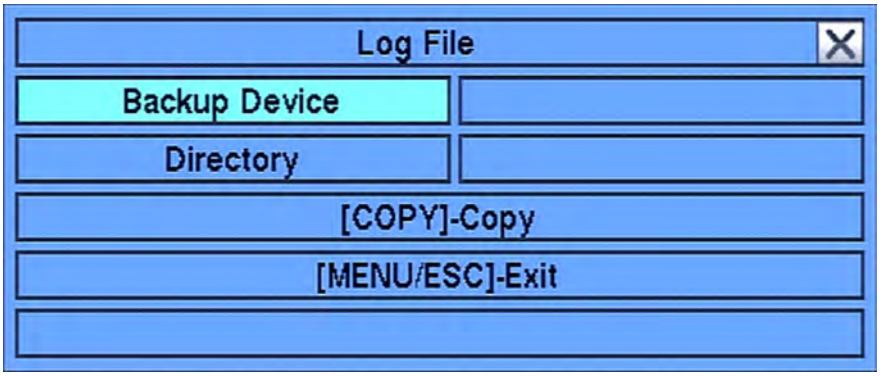
**The following is a brief description for each item in the sub menu and its specific operations:**

- **EVENT TYPE**
  Press **ENTER** or **+/-** buttons on the remote control to check or uncheck the event type for the log list. Event type options include; **Alarm, Motion, Video Loss**, and **System**. The event type **System** includes all system-related events that do not trigger recording such as Power on/off and Login/Logout. Alternatively, use the mouse to enable or disable the appropriate event types.

- **SOURCE ID**
  Press **ENTER** or **+/-** buttons on the remote control to check or uncheck the **Source ID** to be searched. Check or uncheck **ALL** for faster operation. Alternatively, use the mouse to check or uncheck the **Source ID(s)**. This feature helps to filter the events shown in the log list. For the Alarm event type, the DVR will search based on the Alarm Input number. **For Motion and Video Loss event types, the DVR will search based on the camera number.**

- **LOG LIST**
  The **Log List** is the list of events according to the search parameters entered (Event Type and Source ID selected). Once the list is displayed, the user may:

  1. Press the **ENTER** button on the remote control to select or deselect an event in the log list. Multiple events can be selected in this manner. Alternatively, use the mouse to select or deselect events.
  2. Press **Play** ( ►/II, ►►) button on the remote control to playback all the selected events. Alternatively, use the mouse to select the **Play** button.
  3. Press **Copy** ( ) button on the remote control to backup (copy) all of the selected recorded video and audio events to the connected backup device. Alternatively, use the mouse to select the **Copy** button. The **Backup** menu (described in the Archive portion of **Section 8.6**) will be displayed.




Press the **+/-** buttons on the remote control to select the backup device and enter the directory name to store the backup. Press the **Copy** button on the remote control to copy the recorded video and audio to the selected backup device. Alternatively, use the mouse to select the device and then the **Copy** button.

## 7.3 SMART SEARCH

The **Smart Search** feature allows the user to search for motion in a specific area of a video (camera) window. This is helpful to narrow down the search results if only a portion of the video window contains the event in question. For example, if a scene in an office includes a safe and the manager wants to review who accessed the safe, the area of the video window that contains the safe could be defined as the only portion of the recorded videos searched for motion.

*Note: the area of a video searched using **Smart Search** must be part of the defined area for **Motion Detection** (see **Section 6.2.2**).*

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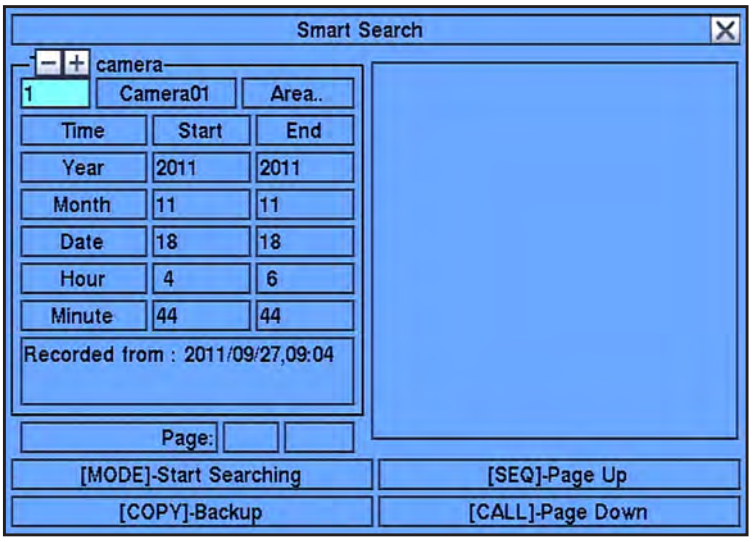



**To navigate and operate this menu:**

- **MODE**
  Press the **Mode** button on the remote control to begin searching the recorded video and audio based on the selected search **Time, Camera, and Motion Area**. Alternatively, use the mouse to set the parameters and begin the search. The search results will be displayed on the right half of the dialog box.

  *Note: To prevent the **Smart Search** feature from overloading the system, a maximum of up to 500 matched files or 200 GB of hard drive storage for each record partition will be searched based on the start time entered.*

- **SEQ**
  Use the **SEQ** button on the remote control to scroll the results **Page Up**.
  Alternatively, use the mouse to select the **Page Up** option.

- **CALL**
  Use the **CALL** button on the remote control to scroll the results **Page Down**.
  Alternatively, use the mouse to select the **Page Down** option.

- **Numeric**
  Press the numeric buttons on the remote control followed by the **ENTER** button to select the display page of the results. Alternatively, use the mouse to click the Page Number box.

- **Copy ( )**
  Select the **COPY** button from the remote control to backup **(copy)** the selected type of recorded video (beginning from the **Search Time**) to the connected backup device. The **Backup** menu (described in the **Archive** portion of **Section 8.6**) will be displayed. Alternatively, use the mouse to select the **COPY** button.

**The following is a brief description for each item in this menu and its specific operations:**

- **CAMERA ID**
  Press **+/-** buttons on the remote control to change the camera ID to be searched for matching files.
  Altenatively use the mouse to enter the **Camera ID** number.

- **START/END TIME**
  Press **+/-** buttons on the remote control to modify the beginning and end of the search time for the recorded video and audio. Enter the appropriate **Year, Month, Date, Hour,** and **Minute**. Alternatively, use the mouse to enter these parameters.

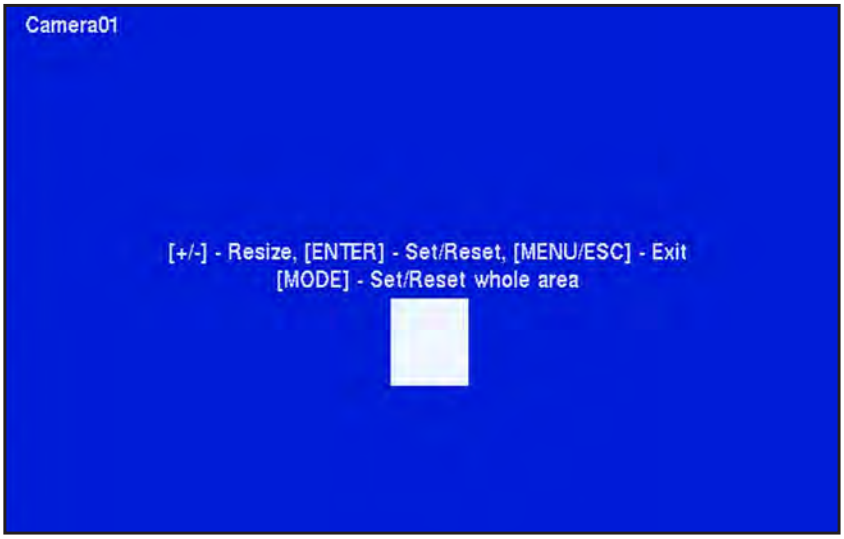
- **MATCHED FILE LIST**
  The results of the **Smart Search** will be displayed in the right side of the dialog box. The files are shown from oldest to newest and a page number is shown on the lower-left corner of the dialog box.
  The user may:

  1. Press the **ENTER** button on the remote control to select or deselect a matching event file in the results list. Multiple events can be selected in this manner. Alternatively, use the mouse to select or deselect each event.

2. Press **Play** (►/II, ►►) button on the remote control to playback all the selected events. Alternatively, use the mouse to select the Play button.
3. Press **Copy** ( ) button on the remote control to backup (copy) all of the selected recorded video and audio events to the connected backup device. Alternatively, use the mouse to select the **Copy** button. The **Backup** menu (described in the Archive portion of **Section 8.6**) will be displayed.

- **AREA**

Area defined as the motion area for the video to be searched for matching files. Use the buttons on the remote control to highlight **Area** and press **ENTER** to display **Motion Area Setting** screen as shown below.




In the **Motion Area Setting** screen use the **white** mask window to define the **Smart Search** area in the same manner as setting up **Motion Detection** (see Section **6.2.2**).

*Note: The area of a video searched using **Smart Search** must be part of the defined area for **Motion Detection** (see Section 6.2.2). Only files with motion covering all of the defined motion area will be displayed as matching results. Therefore, based on the search algorithm, there will be more matching files for smaller defined motion areas.*

**The following is a brief description for each item in this menu and its specific operations:**

- **▲▼◄►**

  Press these buttons on the remote control to move the **Mask** window (grids **white** in color). Alternatively, use the mouse to select and move the **Mask** window (grids **white** in color) by "left-clicking" and dragging the mouse over the desired area.

- **+/-**

  Press these buttons on the remote control to resize the **Mask** window (grids **white** in color). Alternatively, use the mouse to select and move the **Mask** window (grids **white** in color) by "left-clicking" and dragging the mouse over the desired area.

- **ENTER**

  Press this button on the remote control to **Set/Reset** the area of the **Mask** window (grids **white** in color). Alternatively, use the mouse to select the **Mask** icon and adjust the Mask window (grids **white** in color). Once the mask area is set, the mask window will change to yellow.

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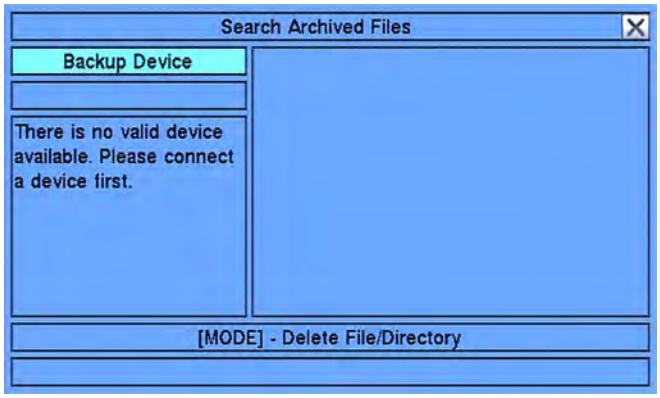
- **MODE**
  Press this button on the remote control to **Set/Reset** the whole video area.
  Alternatively, use the mouse to select this icon.

- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the **Smart Search** menu. Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." Another method to escape is to use the mouse to "right-click," and exit the sub menu.

## 7.4 SEARCH ARCHIVED FILES

The **Search Archived Files** feature allows the user to search files on a storage devices such as a USB thumb drive.


Search Archived Files
Backup Device
There is no valid device available. Please connect a device first.
[MODE] - Delete File/Directory

**The following is a brief description for each item in the sub menu and its specific operations:**

- **BACKUP DEVICE**
  Press **ENTER** on the remote control to connect to the backup device and display the files on the device.
  Alternatively, use the mouse to connect to the backup device and display the files.

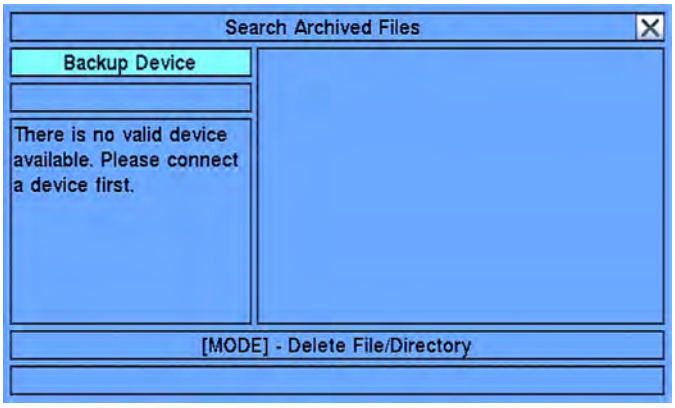
- **ARCHIVED FILE LIST**
  Select the appropriate file from the file list and then press **ENTER** to begin playback.
  Pressing the **Play** button (►/II) on the remote control, or double-clicking the left mouse button will also begin playback. Refer to **Section 8.9 Playback For Archived Files** for the detailed operations. To delete a file, press the **MODE** button on the remote control.
  Alternativly use the mouse to select files, begin playback or delete files.

  *Note : File name format for camNN-YYYYMMDD-hhmmss.h264 is as follows:*

  - **NN** = camera number(01-08)
  - **YYYY** = year
  - **MM** = month
  - **DD** = day
  - **hh** = hour
  - **mm** = minute
  - **ss** = second
  - **.h264** = file type

## 7.5 PLAYBACK SEARCH RESULTS

Once playing back video, use the following controls to operate and archivethe video and audio:


Search Archived Files
Backup Device
There is no valid device available. Please connect a device first.
[MODE] - Delete File/Directory

**To navigate and operate this menu:**

- **MODE**
  Use the button on the remote control to toggle live and playback mode.
  Playback mode is indicated by a **red** box around the camera title of the focus camera (the camera being controlled). If in a split window display, the focus window will first switch to playback mode. A second press of the **MODE** button will toggle additional windows to playback mode. Continue to press the **MODE** button to return to live mode (indicated by a **green** box around the camera title of the focus camera). Alternatively, use the mouse to select this icon.

  Refer to **Section 4.3 Basic Operations** for instructions on how to change the camera(s) in the playback window(s). After the cameras are set, use the following buttons to control the playback:

- **PLAY/PAUSE (►/II)**
  Press this button on the remote control to play or pause the recorded video and audio at 1X speed.
  If the playback is paused, press this button again to resume playback.
  Alternatively, use the mouse to select this icon. Audio can only be played at forward speed 1X and when the associated cameras is played back in a full window view.

- **STOP (■)**
  Press this button on the remote control to stop playback of the recorded video and audio and **return to Live video**.

- **FAST FORWARD (►►/► ON REMOTE CONTROL**
  Press this button for fast forward playback. Each time this button is pressed, the forward playback speed will increase in speed from 2X, 4X, 8X, up to 64X, and then back to 2X.

- **SLOW FORWARD BUTTON (SEQ ON REMOTE CONTROL**
  Press this button on the remote control for slow forward playback. Each time this button is pressed, playback speed will increase in speed from 2X, 4X, 8X, up to 16C, and then back to 2X. Alternatively, use the mouse to select the icon sequence using the Fast/Slow button to toggle the playback speed.

- **FAST REVERSE (◄◄/◄ ON REMOTE CONTROL**
  Press this button for fast reverse playback. Each time this button is pressed, the reverse playback speed will increase in speed from 2X, 4X, 8X, up to 64X, and then back to 2X.

- **SLOW BACKWARD BUTTON (MODE ON REMOTE CONTROL)**
  Press this button on the remote control for slow backward playback. Each time this button is pressed, playback speed will increase in speed from 2X, 4X, 8X, up to 16C, and then back to 2X. Alternatively, use the mouse to select the icon sequence using the Fast/Slow button to toggle the playback speed.

- **SINGLE STEP (►I/▼ON REMOTE CONTROL**
  Press this button to play the recorded video frame by frame.

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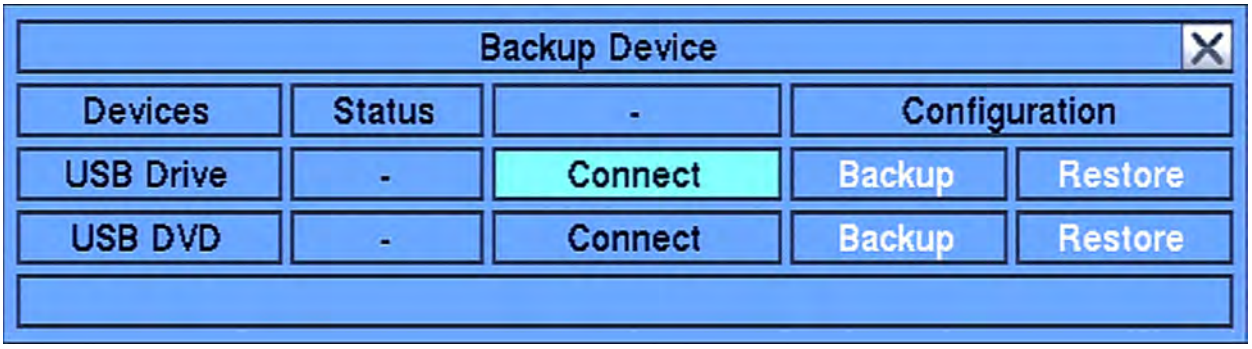
## 7.6 ARCHIVE (BACKUP) SEARCH RESULTS

Once playing back video from the **Search** option, use the following controls to archive (backup) the video and audio:




**The following is a brief description for the operations in the Backup menu:**

- **▲▼◄►**
  Press these buttons on the remote control to select an item.
  Alternatively, use the mouse to select an item.
- **COPY (⎘)**
  Press this button on the remote control to start the backup (copy) procedure. A **Copy** icon will be displayed the lower-right corner of the **Status Bar** indicating that the selected video and audio is being copied to the storage device. Alternatively, use the mouse to select the **Copy** function.
- **STOP (■)**
  Press this button on the remote control to stop copying and return to the previous display. The **Copy** icon will disappear from the **Status Bar**. Alternatively, use the mouse to select the stop function.
- **ESC**
  Press the **ESC** button on the remote control to escape from this menu and return to the Smart Search menu. Alternatively, use the mouse to exit the sub menu by clicking on the "**X**." Another method to escape is to use the mouse to "right-click," and exit the sub menu.
- **BACKUP DEVICE**
  Press the **+/-** buttons on the remote control to select the connected backup device.
  Alternatively, use the mouse to select the backup device.
  *Note: Follow the steps described in* **Section 5.3** *Backup Device to connect the backup device before copying.*
- **BACKUP SPEED**
  Press the **+/-** buttons on the remote control to select a speed from 1-9 with 1 the lowest speed and 9 the highest speed. Alternatively, use the mouse to select the backup speed.
- **DIRECTORY**
  Enter the directory to store the backup files. Please follow the Text Input method described in **Section 4.1** to enter the backup directory. Alternatively, use the mouse and the pop-up keyboard to enter the directory.

- **CAMERAS**

Press the **ENTER** or **+/-** buttons on the remote control to select or deselect each of the cameras to be archived.

- **END TIME**
  Press the **+/-** buttons on the remote control to modify the Year, Month, Date, Hour, and Minute for the recorded video and audio for the backup without playback of Search by Time. The files will be backed-up from the start time to the end time when the user press the **COPY** button to start copying.

*Note : For each camera and each backup, a batch file will be generated as well as the backup .h264 files. A directory titled "/SelfPlayer" will also be generated if it's not already existing on the backup storage device (thumb drive, local PC, etc). The user can use the batch file to self-playback the corresponding backup files on a PC. If the PC has not been installed with the required player components, those components will be installed by running the batch file*

*In Windows, run /SelfPlayer/SelfPlayerInstall.exe found on the storage device manually to install the required player components on the PC (if the PC was NOT used to backup the files)*

*To copy self-playback files, copy the batch file and the backup files to the destination directory. Also copy the entire "/SelfPlayer" directory to the root directory of the destination PC.*

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# 8. REMOTE ACCESS

The following section discusses DVR remote viewing and control options from PCs and Smart phones.

## 8.1 PC REMOTE ACCESS

After completing the initial setup, the DVR can be remotely accessed from a PC using a 32bit Internet Explorer web browser. Refer to Section 6 and the appendices (or the **Quick Installation Guide** included in the box) for initial network setup instructions.

To log onto the DVR, launch Internet Explorer and enter the IP address of the DVR in the Location/Address field of the web browser. The DVR's address will look similar to this:

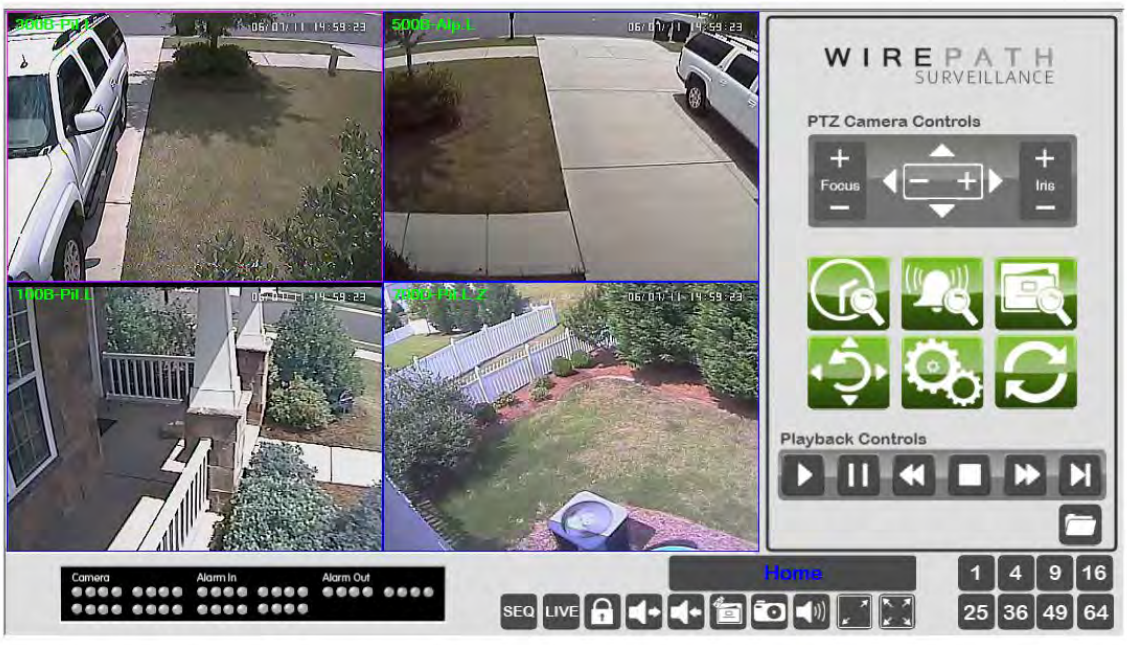
**http://AAA.AAA.AAA.AAA:BB/ie.htm**

- AAA.AAA.AAA.AAA should be replaced with the IP address of the DVR
- If set to a port number other than the default 80, BB should be the HTTP port entered into the DVR and it must match port forwarding set up in the router
- /ie.htm is the extension for the DVR and must be included at the end of the DVR

Alternatively, use the DDNS domain name address if this feature has been enabled and properly setup.

*Note: Up to 6 users can log into this DVR simultaneously.*

## 8.2 PC REMOTE DISPLAY AND OPERATIONS




Video images can be displayed in several types of split-window screens including 1/4/9-Window options for a single DVR and 16/25/36/49/64 options if connected to multiple DVRs.

- The focus window is the window surrounded by a **purple** frame border.
- The "**.L**" following the camera title denotes Live video display (text is **green**).
- The "**.P**" following the camera title denotes Playback (text is **red**).
- A **white** box will appear around the camera title when motion is detected.
- The **white** text in the top right of each camera window denotes date and time.

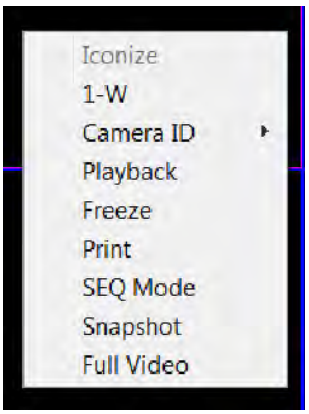
*Note: The frame rate is limited by the bandwidth of the network and the pre-record FPS of the camera (**Section 9.3.5**). The picture quality depends on the recording resolution set in the DVR (**Section 9.3.4**) and quality of the camera. See **Section 9.4** for Dual Streaming options.*

### 8.2.1 SPLIT-WINDOW OPTION MENU

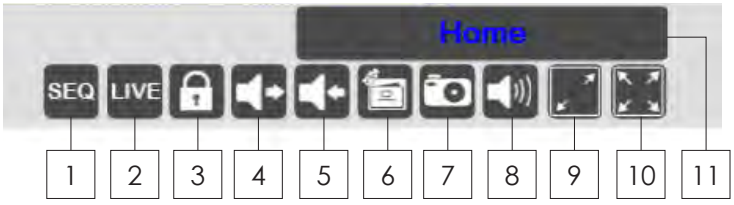
Right click on any split-window to display the **Split-Window Option Menu**.

**The following is a brief description for each item in this menu and its specific operations:**

- **1-W**
  When in a split-window view, expand the focus window camera to fill the entire video window. When in a single-window view, uncheck this item to return to the previous split-window view.
- **CAMERA ID**
  Change or rearrange the current view by selecting a different camera to appear in each window. If multiple DVRs are connected, cameras from other DVRs can be displayed simultaneously.
- **PLAYBACK**
  Begin **Playback** for the current camera window
- **FREEZE**
  **Freeze** the Video
- **PRINT**
  **Print** a picture of the current video window
- **SEQ MODE**
  Enable **Sequence** mode
- **SNAPSHOT**
  Take a **Snapshot** of the video and save it to the local PC
- **FULL VIDEO**
  Expand the current split-window for single window view to fill the entire display and hide all controls




### 8.2.2 CONTROL PANEL




1. **SEQ MODE**
   Enables the **Sequence Mode** defined in the setup. This feature will automatically cycle through the cameras on the display. When SEQ mode enabled recorded playback is unavailable, turn SEQ mode off before playing recorded video.
2. **LIVE**
   When in **Playback mode**, use this icon to exit playback and return to Live Video.
3. **FREEZE**
   Freezes live and recorded playback video. Select this icon again to resume **Live** and **Playback** modes.
4. **AUDIO OUT**
   When viewing a camera in the single window view, select the **Audio Out** icon to listen to the associated audio.

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**5. AUDIO IN**
Use the microphone in the PC to send audio to the DVR. An amplifier and speaker must be attached to the Audio Out connection of the DVR to use this function.

**6. ARCHIVE MENU**
Select this icon to save and backup files.

**7. SNAPSHOT**
Select this icon to take a **Snapshot** of the screen being viewed. A pop-up window will allow this snapshot to be saved to the local PC.

**8. AUDIO BROADCAST**
Similar to the **Audio In** function, use this feature to broadcast audio to multiple DVRs simultaneously.

**9. FULL SCREEN**
Expand the user interface to fill the entire display.

**10. FULL VIDEO**
Expand the video window to fill the entire display.

**11. NAME OF SELECTED DVR**
The name of the connected DVR is displayed in this box. Change the connected DVR or connect to multiple DVRs simultaneously to mix and match camera views.

### 8.2.3 SPLIT-WINDOW PANEL

Use these icons to select the number of cameras viewed on the display.

- **4 AND 9 SPLIT WINDOW ICONS**
  Left-click and hold the mouse over the **4** or **9** split-window icon to toggle to additional pages of cameras.

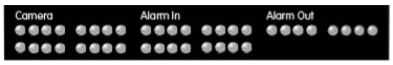
Only 4 cameras are viewable on the WPS-100-DVR-4ch

### 8.2.4 PLAYBACK PANEL

This panel includes **Fast Forward, Fast Reverse, Step Forward, Play, Pause, Stop** and **Copy**.
Fast Forward and Fast Reverse will playback video at **2X, 4X, 8X, 16X**, and **32X** speeds.

- **FORWARD AND REVERSE ICONS**
  Left-click and hold the mouse over the forward or reverse icons to display a pop-up menu to change the speed. Options include **X2, X4, X8, X16, X32** and **X64**.

### 8.2.5 STATUS PANEL




- **CAMERA STATUS**
  Motion indicators for cameras 1-16 (this DVR supports the first 8)
  - **GREEN** indicates normal status
  - **RED** indicates motion

  Click on any of these icons to select the corresponding camera to be displayed in the focus window.

- **ALARM IN STATUS**

Status indicators for Alarm Inputs 1-16 (this DVR supports the first 4)

- **GREEN** indicates normal status
- **RED** indicates alarm detection

- **ALARM OUT**

Status indicators for Alarm Outputs 1-8 (this DVR supports the first 2)

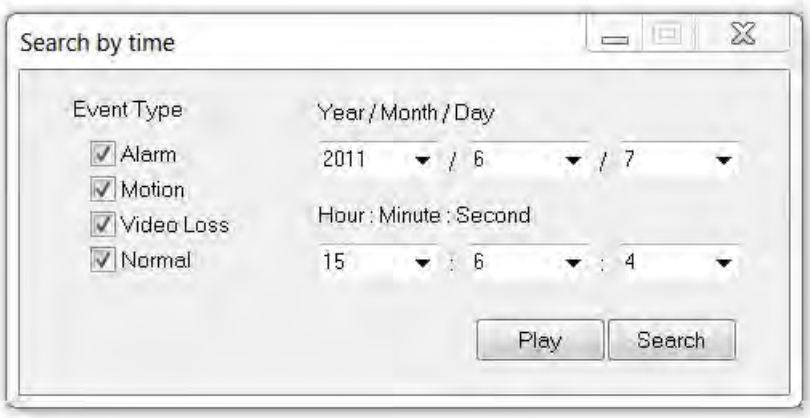
- **GREEN** indicates normal state
- **RED** indicates triggered state) for the selected DVR.

As an Administrator, click on any of these icons to control the corresponding Alarm Output.

## 8.2.6 SEARCH PANEL AND COPY FEATURE

### 8.2.6.1 SEARCH BY TIME

To playback video starting at a specific time, select the desired time (**Year, Month, Date, Hour, Minute** and **Second**) and recorded event type (**Alarm, Motion, Video Loss**, and **Normal**) for playback. Click on the **Play** button to begin the playback of all recorded video beginning at that time. Audio will only be played back if in a single window view of a camera that has an associated audio input. Use the **Playback Panel** icons to control the video. To exit playback, select the **LIVE** icon at the bottom of the screen.




### 8.2.6.2 SEARCH BY EVENT

Use the Search by Event feature to search all recorded event types stored on the DVR's hard drive. Click on the Search by Event icon to display the **Search by Event** dialog box and the event log. Select the Device (DVR) to search. Select the Event Type (**Alarm, Motion, Video Loss** or **System**) and Source ID (camera) to search the event logs. Click on **Refresh** to update the event log and use the Up and Down buttons to scroll to additional events. Click on the desired events to highlight and select them for Playback or to Archive the files to the local PC. Use the **Playback Panel** icons to control the video. To exit playback, select the **LIVE** icon at the bottom of the screen.

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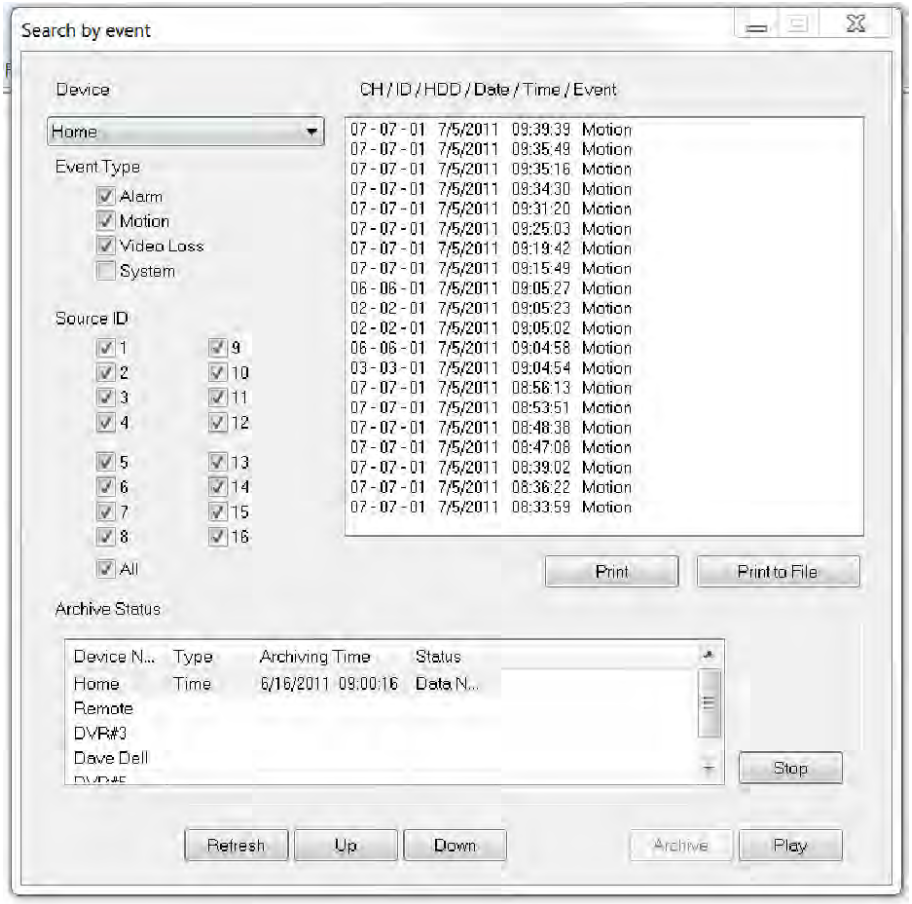



**The following is a brief description for each item in this menu and its specific operations:**

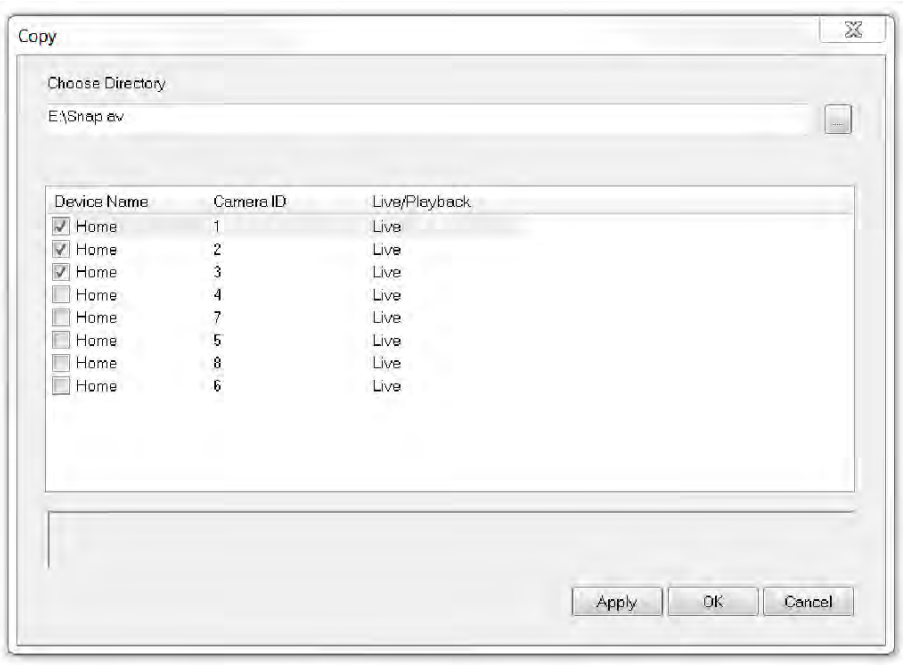
- **DEVICE**
  Select the appropriate DVR to search
- **EVENT TYPE**
  Select the event type(s) to search. System events include Login/Logout, e-mail errors, hard drive failures, etc.
- **SOURCE ID**
  Select the camera ID number(s) to search
- **PRINT**
  Print the event log to a printer
- **PRINT TO FILE**
  Export the event log to a ".txt" file
- **REFRESH**
  Refresh the event log after making changes to the search parameters
- **UP**
  Scroll the event log results up
- **DOWN**
  Scroll the event log results down
- **ARCHIVE**
  Archive the selected event(s) to the local PC
- **PLAY**
  Play the selected event(s)

### 8.2.6.3 SEARCH BY PC VIDEO

**Search the local PC for stored video files**. Once the files have been selected, click on **Open**. Use the **Playback Panel** icons to control the video. To exit playback, select the **LIVE** icon at the bottom of the screen.

### 8.2.6.4 COPY FUNCTION

Use the **Copy** function to record live video from the DVR onto the local PC. The performance of this feature is based on bandwidth capacity of the network and the number and size of the files being copied.




Camera options will populate the **Copy** menu based on what is being viewed in the split window view. If only one camera is being viewed, only that camera will be displayed in the **Copy** menu as an option to record.

To enable the **Copy** feature, first choose a directory to store the video. Next, depending on the split-window view, check each camera to be recorded to the local PC and select **Apply**. Live video for the selected camera(s) will begin to copy to the chosen directory on the local PC.

To stop the **Copy** feature, uncheck the appropriate cameras and select the **Apply** button.

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## 8.2.7 PTZ CONTROL PANEL

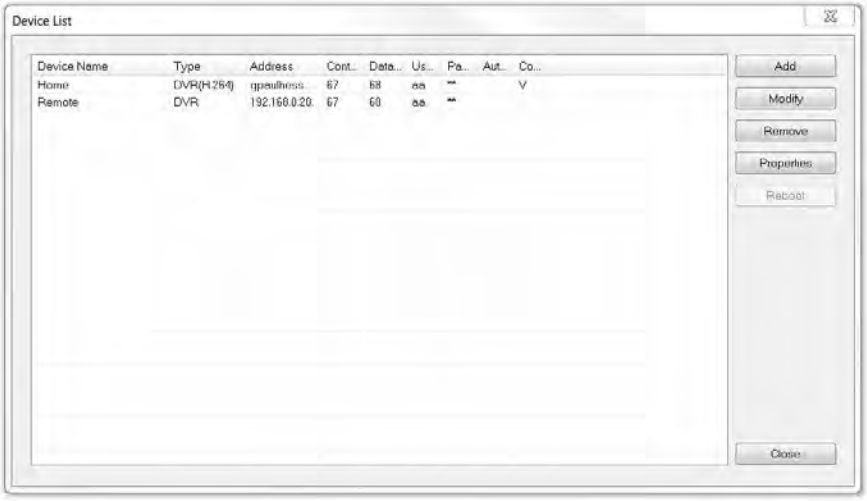
If the camera in the focus window is a Pan/Tilt/Zoom camera, use the buttons on the user interface to operate basic PTZ features. This feature not available on WPS-100-DVR-4ch.

For more control, display the **PTZ Control Panel** by clicking on the **PTZ Panel** icon. Move the panel by clicking and dragging the panel to the desired location.

To hide the menu, click on the **PTZ Panel** icon again.

## 8.2.8 DEVICE CONFIG

The Internet Explorer user interface has the ability to connect to multiple DVRs. DVRs must first be added to the **Device List**.

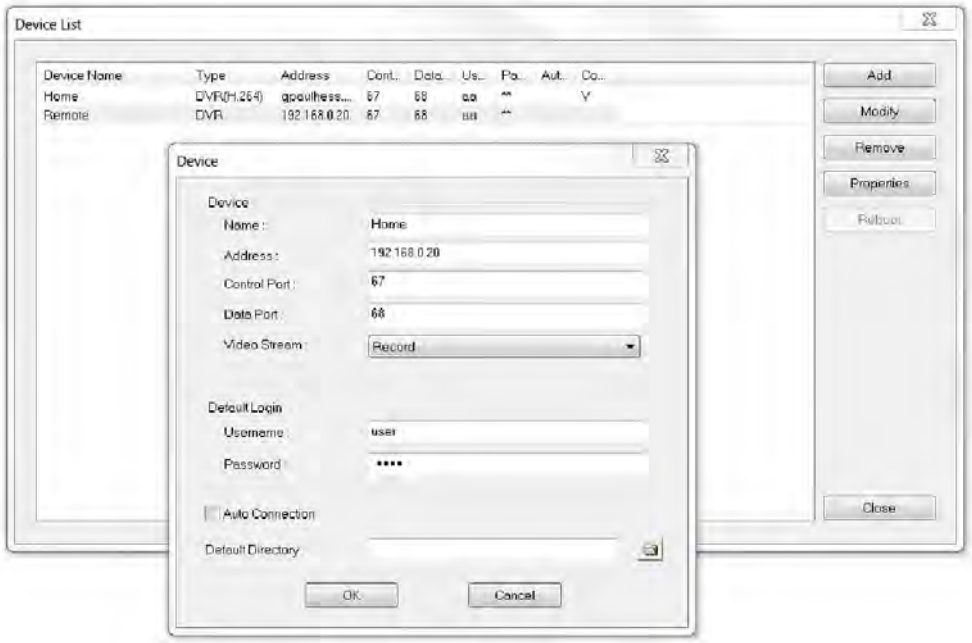



**The following is a brief description for each item in this menu and its specific operations:**

- **ADD**
  Add DVRs to the Device List
- **MODIFY**
  Modify the settings of DVRs in the Device List. See **Section 9.2.8.1.**
- **REMOVE**
  Remove DVRs from the Device List
- **PROPERTIES**
  Adjust the Properties of DVRs in the Device List. See **Section 9.3**.
- **REBOOT**
  Reboot a DVR in the Device List.

### 8.2.8.1 MODIFY

**DVRs in the Device List may be modified using this menu.**




**The following is a brief description for each item in this menu and its specific operations:**

- **NAME**
  Enter a meaningful name for the DVR.

- **ADDRESS**
  Enter the IP address or URL domain name for the DVR.

- **CONTROL PORT**
  Set the control port for the (DVR) device. The default value is **67** and is auto-populated in menu.

- **DATA PORT**
  Set the data port for the (DVR) device. The default value is **68** and is auto-populated in menu.

- **VIDEO STREAM**
  Set the Video Stream to **Record** to view live video at the same rate as the recording (main) stream. Or set the Video Stream to **Extra** (for "extra" network stream) for Dual Streaming. Dual Streaming is helpful when viewing a remote DVR over a slow network connection. This allows the DVR to continue to record as the set rate but reduces the resolution to speed the video delivery to remote devices. See **Section 9.4** for Dual Streaming.

- **USER NAME**
  Enter the login user name for the DVR. The login name must match a name already set in the DVR.

- **PASSWORD**
  Enter the corresponding password for the login user name. The password must match the password for the chosen login name already set in the DVR.

- **AUTO CONNECTION**
  If this option is enabled, the Internet Explorer user interface will automatically connect to the corresponding DVR to display status messages on the PC screen even if the particular DVR is not being viewed.

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## 8.2.9 SOFTWARE UPGRADE

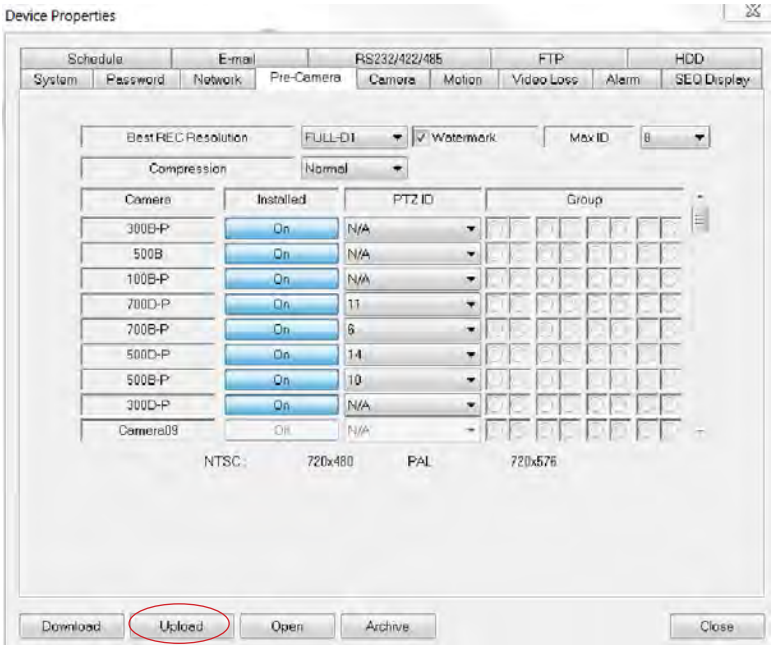
On occasion it may be necessary to update the DVR's software to take advantage of new features

- Use the Software Upgrade icon to open the Software Upgrade dialog box. The current software version of the connected DVR(s) will be displayed in the Upgrade Status field.
- To upgrade a DVR, select the DVR and corresponding upgrade file and then click the Start button to begin the software upgrade process. The Upgrade status will be updated according to progress.
- The upgrade process may take several minutes and will require the DVR to reboot to complete the process
- The software upgrade can be done over the internet or from a local network connection. The update may take more than 10 minutes if done over the internet depending on the network speed.

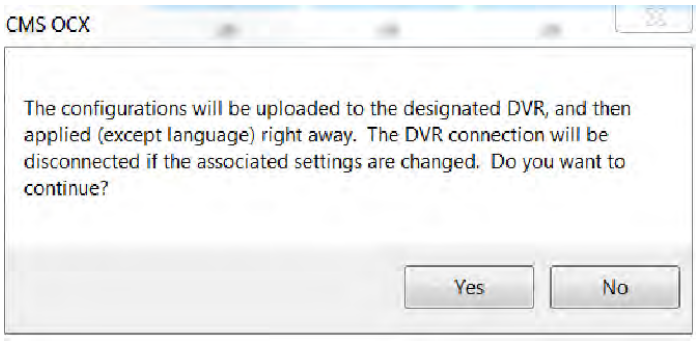
## 8.3 PC CONFIGURATION OF DEVICE PROPERTIES

Once initially setup, most options of the DVR can be configured remotely. The following sections highlight the options found in the menus. They have been purposely designed to be similar to the setup menus when using the OSD menu from the VGA or BNC output of the DVR. Once changes have been made, they must be uploaded to the DVR.

- To save the settings, click on the **Upload** button.

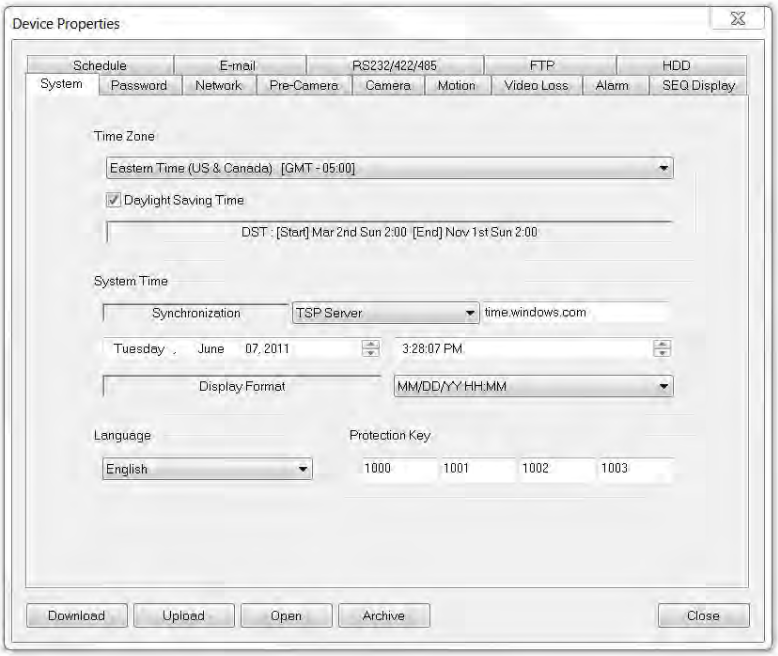



- Select **Yes** to confirm the changes when asked to continue


CMS OCX
The configurations will be uploaded to the designated DVR, and then applied (except language) right away. The DVR connection will be disconnected if the associated settings are changed. Do you want to continue?
Yes
No

### 8.3.1 SYSTEM

The **System Setup** allows the administrator to set the system time, time zone, time synchronization, language, etc.




**The following is a brief description for each item in this menu and its specific operations:**

- **TIME ZONE**
  Select the appropriate time zone. The default setting is **Eastern Standard Time**.

- **DAYLIGHT SAVING TIME**
  Enable or disable **DST** by checking this box.

- **SYSTEM TIME**
  - **Synchronization**
    Enable or disable time synchronization with a **TSP Server**. The default setting is disabled.
  - **TSP Server**
    If Time Synchronization is enabled, select a Time Synchronization Protocol (TSP) server. The DVR will synchronize with the specified TSP server.
  - **Date**
    System date
  - **Time**
    System time
  - **Display Format**
    Select the format used to display the system time in the camera windows

- **LANGUAGE**
  System language

  *Note: If the selected language is changed, reboot the system for the newly selected language to take effect.*

- **PROTECTION KEY**
  The **Protection Key** is used for secure remote access of the system.

  *Note: The Protection Key will be used by some software for authentication when a remote computer wants to connect with the system through the Ethernet interface, either LAN or internet. The same protection key must be entered to install the remote software if it is to be used to access the DVR.*

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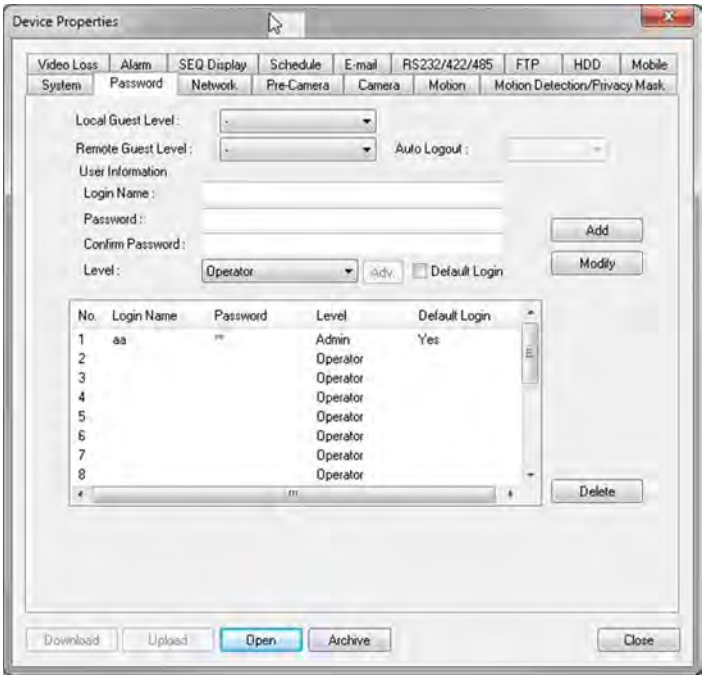
### 8.3.2 PASSWORD

The **Password Setup** allows the administrator to add new users, delete existing users, and/or modify the user names, password, and levels of access




The DVR allows up to 18 user accounts. There are three default user levels in the system:

- **OPERATOR**
  The lowest level, an Operator can only view live video and audio.
- **SUPERVISOR**
  In addition to live video viewing, a Supervisor can review playback video and audio and has permission to archive files.
- **ADMINISTRATOR**
  The highest level is Administrator and has access to all options.
- **USERNAME**
  In addition to the three default levels, an administrator can also set Customized levels of access for each user as described in the following paragraphs.

  **The factory preset Administrator level login**

**The following is a brief description for each item in this menu and its specific operations:**

**WARNING – The following 2 features could allow unwarranted access to the DVR. Caution is strongly advised when enabling these features.**

**Important Note:** The following 2 features were added in software v7.77.53 and were listed as Guest Level in previous versions. When the DVR is updated, the setting previously set in Guest Level will show as Remote Guest Level. Verify that it is set to the desired level.

- **Local Guest Level**

Allows or restricts access to the DVR by Guests accessing the DVR through Local interfaces (DVR GUI via front panel buttons, IR remote control or home automation Ethernet control) without a dedicated Login. The option selected determines the level of access a Guest will have.

**"-" (Default)** - No Guest Access Allowed (Does not prevent access by User with login credentials)

**Administrator** - Provides full access to the DVR allowing for viewing of all cameras and modification to all settings. Use this setting with caution.

**Supervisor** - Provides access to view and control all cameras, Search, Archive and modify basic settings.

**Operator** - Provides access to view and control all cameras. No access to Search or settings is provided.

**UserName** - Provides customized access to the features defined in the Advanced Settings for a particular user. See **Adv**: below for more information.

**Note:** If an RS-232 or IP control system is being used, the Default setting allows the system to control the DVR, but prevents Guest access to DVR features. With this setting users would be required to enter a Login and Password to view cameras, change settings, etc..

- **Remote Guest Level**

Allows or restricts access to the DVR by Guests accessing the DVR from the Internet Explorer plugin interface without a dedicated Login. The option selected determines the level of access a Remote Guest will have.

**"-" (Default)** - No Guest Access Allowed (Does not prevent access by User with login credentials)

**Administrator** - Provides full access to the DVR allowing for viewing of all cameras and modification to all settings. Use this setting with caution.

**Supervisor** - Provides access to view and control all cameras, Search, Archive and modify basic settings.

**Operator** - Provides access to view and control all cameras. No access to Search or settings is provided.

**UserName** - Provides access to the features as defined in the Advanced Settings for a particular user. See Adv: below for more information. Note: It is recommended that Remote Guest Level be set to the the default "-" to prevent unwanted access to the DVR from outside sources.

- **AUTO LOGOUT**

  If there is no user operation in the time selected from 1 minute to 24 hours, the user will automatically be logged out.

- **LOGIN NAME**

  Enter a unique name for each user.

- **PASSWORD AND CONFIRM PASSWORD**

  Enter a unique password (numbers only) for each user.

- **LEVEL**

  Select the appropriate access level (Administrator, Supervisor, Operator, or Customized) for each user.

- **DEFAULT LOGIN**

  Check the **Default Login** box so the corresponding user's login name and password will be the default credentials populated in the **Login/Logout** dialog box so the user doesn't have to enter text to login the system. Default Login will be noted with a "**V**" in the Default Login column.

  **WARNING – This feature could allow unwarranted access to the DVR. Caution is strongly advised when enabling this feature. Setting a default login means that the user name and password will automatically populate the Login/Logout box. This could leave the system vulnerable to unauthorized use. It is recommended to deselect a default login so users are required to provide credentials to access the DVR.**

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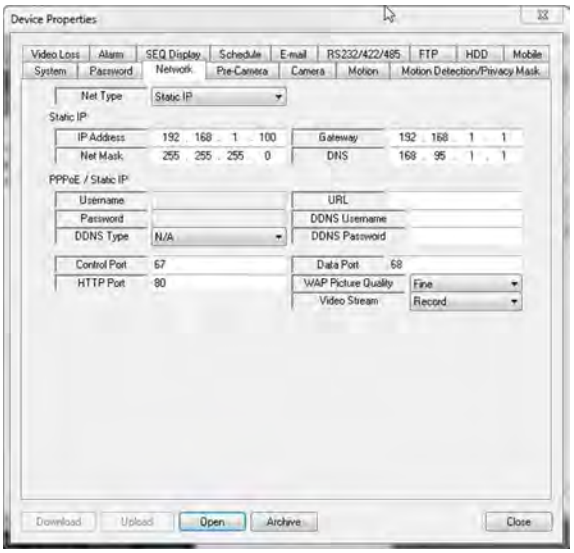
- **ADV.**
  For Customized access per user setup the Advanced User Setup. Within the menu, options are categorized into groups (Monitor, Search, Setup and Others):
  - **Monitor Channel 1-8**
    Select Channels (cameras) the user can monitor.
  - **X2**
    Allow the user to Zoom live and playback video.
  - **PTZ**
    Allow the user to access PTZ features if supported by the camera.
  - **Volume**
    Allow the user to change volume.
  - **Video Adjustment**
    Allow the user to adjust the video
  - **VGA Display**
    Allow the user to change VGA settings.
  - **Playback**
    Allow the user to view playback video and audio.
  - **Backup**
    Allow the user to backup video and audio.
  - **Configuration Backup/Restore**
    Allow the user to backup or restore the DVR configuration.
  - **Setup Camera**
    Allow the user access to Camera Setup.
  - **Setup Alarm**
    Allow the user access to Alarm Setup.
  - **Setup SEQ Display**
    Allow the user access to Sequence Display setup.
  - **Setup Scheduled Record**
    Allow the user access to Scheduled Record setup.
  - **Setup HDD**
    Allow the user access to hard drive setup.
  - **Setup Password**
    Allow the user access to Password Setup.
  - **Setup System**
    Allow the user access to System Setup.
  - **Setup RS-232/422/485**
    Allow the user access to RS485 setup.
  - **Setup Network**
    Allow the user access to Network Setup.
  - **Setup Factory Defaults**
    Allow the user to restore factory defaults to all setup related configurations.
  - **Software Upgrade**
    Allow the user to upgrade the DVR software.
  - **Shutdown**
    Allow the user to shutdown the DVR.

### 8.3.3 NETWORK

The Network Setup allows the administrator to setup all Ethernet network related parameters. Consultation with the network administrator may be required to set these parameters correctly.




**The following is a brief description for each item in this menu and its specific operations:**

• **Net Type**
Select the type of network connection of the DVR to the network (DHCP, Static IP or PPPoE). **DHCP** is enabled by default but a **Static IP** is recommended.

• **IP Address**
Enter an Ethernet IP address for the DVR. This address should be static and not conflict with any other IP address on the LAN.

• **Net Mask**
Enter the Net Mask for the IP address.

• **Gateway**
Enter the Gateway IP address for the system.

• **DNS**
If using DNS, enter the Domain Name Server address for the system. (Same address as Default Gateway)

• **Username**
If PPPoE is used, enter the username for the system.

• **Password**
If PPPoE is used, enter the password for the system.

• **DDNS Type**
Starting with Version 7.75.53 a new selection will appear for WirepathDNS. It is strongly recommended that this option is used to simplify configuration.

Using the WirepathDNS is easy. Select WirepathDNS from the list and enter the client name or other unique string in the URL. When exiting the Network menu, confirm the changes. A DDNS service is setup automatically. See **IE Interface Setup** in **Appendix E** – **WirepathDNS Setup** for details on using WirepathDNS.

• **URL**
Enter the DDNS URL if DDNS is used. – Enter Client Name or System Name to identify the DVR.
• **DDNS Username**
Enter the DDNS username if DDNS is used. – Not used unless an existing DDNS other than WirepathDNS service is configured.

• **DDNS Password**
Enter the DDNS password if DDNS is used. – Not used unless an existing DDNS other than WirepathDNS service is configured.

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• **WAP Picture Quality**
WAP (Wireless Application Protocol) is a simple standard for remote devices (such as Smartphones) to access the DVR. See Section 9.6 for more information on WAP.

• **Video Stream**
Video Stream (Dual Streaming) allows the user to choose the resolution and speed the video is delivered to the remote device (see Section 9.4). This is especially helpful for remote devices on slower networks. Reducing resolution sent to these devices will speed up the delivery of the video. To enable Dual Streaming, select one of the four levels of **QCIF** (**Fair** is the lowest quality while **Superfine** is the highest quality). If Dual Streaming is used, the total system recording rate will be reduced. The default value is **Record**, which means that Dual Streaming is not enabled and the output of the DVR to remote devices will match the Best Rec Resolution set in **Pre Camera** (See **Section 8.3.4**).

**Note:** To use Dual Streaming in Internet Explorer, the user must select **Extra Video Stream** option in the **Modify** menu of the **Device List** of the remote PC (See **Section 9.4**).

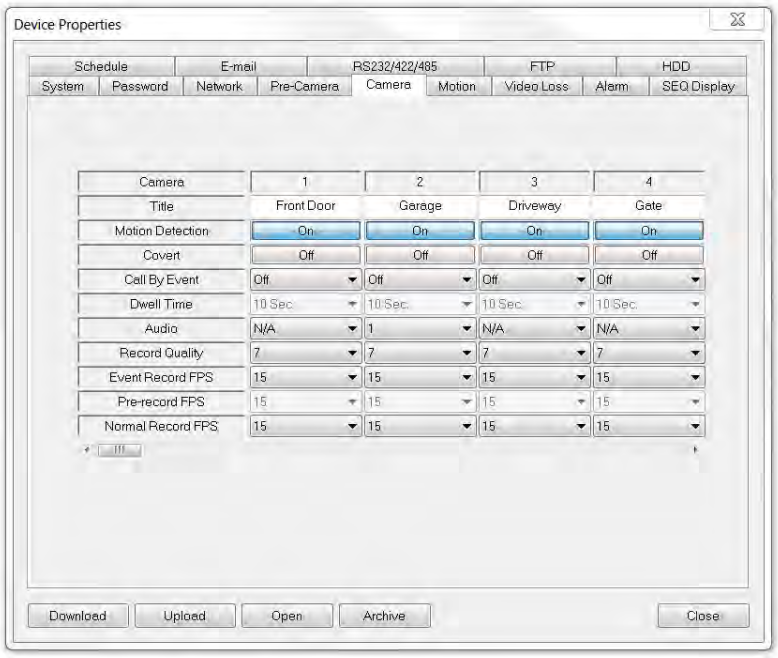
**- QCIF Fair** – Lowest QCIF Resolution -
**- QCIF Normal** – Medium QCIF Resolution
**- QCIF Fine** – High QCIF Resolution
**- QCIF Super Fine** – Best QCIF Resolution

## 8.3.4 PRE CAMERA

This feature is not available on WPS-100-DVR-4CH.

## 8.3.5 CAMERA

The **Camera** setup allows the administrator to define additional attributes for each camera.




**The following is a brief description for each item in this menu and its specific operations:**

- **TITLE**
  Name each camera with a unique identifying name up to eight characters maximum.
- **MOTION DETECTION**
  Enable or disable motion detection for the selected camera. Default setting enables this feature.
  *Note: This has no effect on Smart Search functions.*
- **COVERT**
  If a camera's covert function is enabled, the video of this camera can only be seen if the user has logged in as an Administrator. The default setting is disabled.
- **CALL BY EVENT**
  If the following events occur for this camera, the main display (VGA or BNC) will switch to the video of this camera for a specified period of time (dwell). Options are: **Off**, **Motion**, **Alarm**, **Both** (Motion & Alarm).
- **DWELL TIME**
  Used in conjunction with Call By Event, **Dwell Time** specifies how long the main display will show the camera on the screen. The **Dwell Time** can be set from 3 to 60 seconds
- **AUDIO**
  Select the corresponding AUDIO IN input for the camera. The audio for the selected AUDIO IN input will be recorded along with the video for this camera. Selections include **N/A** or AUDIO Inputs **1** or **2**. The AUDIO INPUTS can only be assigned to one camera each. The default setting is "N/A".
  *Note: The audio will only be heard when in full window view of the corresponding camera and the Audio Out button is enabled.*
- **RECORD QUALITY**
  Select the **Record Quality** for each camera. Values range from **1-9**, with **1** the lowest quality and **9** the highest quality.

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- **EVENT RECORD FPS**
  Set the Frames Per Second **Record** rate for each camera when events such as motion or alarm inputs trigger the camera to record. Settings for Post Record time determines how long the DVR will record after the event triggers recording. Please refer to **Section 9.3.6** and **Section 9.3.8** for Post-record time. Select a value from **0 (off) - 30**.

  *Note: The total Event Record FPS should not exceed the system recording capacity of 120 FPS at CIF resolution, 120 FPS at Half-D1 resolution or 60 FPS at Full-D1 resolution as set in Pre-Camera setup in **Section 9.3.4**. Check the system's total Event Record FPS by adding each camera connected to the system's individual FPS.. The DVR will automatically lower the actual record rate if set beyond the system's capabilities once the total maximum FPS is reached.*

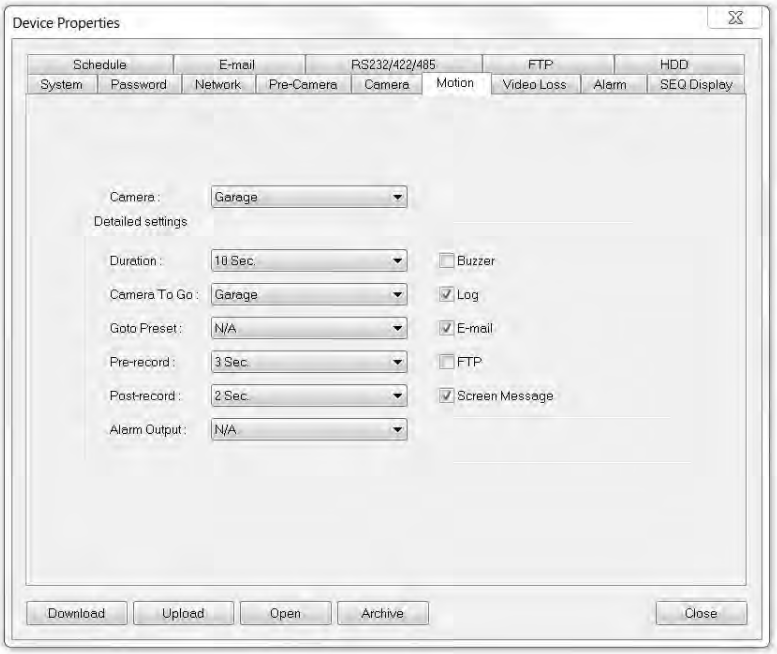
  Recommendation: The higher the FPS setting for a camera, the more fluid the motion on playback. A slower FPS setting could result in "choppy" video during playback, As a reference, live video equals 30 FPS. In surveillance, 15 FPS is recognized as very good quality video while 7 FPS is typically sufficient for most cases.

- **PRE-RECORD FPS**
  The Frames Per Second **Rre-Record** rate for each camera when events such as motion, video loss or alarm inputs trigger the camera to record. For this DVR, the **Pre-Record FPS is always the same as Event Record FPS**. Settings for Pre-Record determine how much time the DVR will record before the event triggers recording. Please refer to **Section 9.3.7**, **Section 9.3.6**, and **Section 9.3.8** for Pre-record time.

- **NORMAL RECORD FPS**
  Unless disabled in the schedule (see **Section 9.3.10**), or this setting is set to **0,** the DVR is always recording. If there is no event triggering the DVR to record (such as motion or alarm inputs), the recording is referred to as Normal Record. Set the FPS for each camera to be recorded at from a minimum of **0** (off) to a maximum equal to the Event Record setting.

## 8.3.6 MOTION

Motion Setup allows the administrator to define how the system responds when motion is detected for the camera. Use the OSD from the VGA, HDMI or BNC main monitor outputs to define the motion detection area (See **Section 6.2.2**).



**The following is a brief description for each item in this menu and its specific operations:**

- **CAMERA**
  Select the camera to define motion triggered events.
- **DURATION**
  Set the length of time the buzzer and the corresponding Alarm Out relay will remain triggered once motion is detected for this camera. The buzzer and Alarm Out relay will reset immediately once motion is no longer detected.
- **CAMERA TO GO**
  This feature is not available on WPS-100-DVR-4CH.
- **GOTO PRESET**
  This feature is not available on WPS-100-DVR-4CH.
- **PRE-RECORD**
  Define how much time the DVR will record before motion is detected. The Pre Record FPS set in **Section 9.3.5** determines the frame rate of this recording.

  *Note: Actual pre-record time may be shorter than the value set if the total size of the pre-record video exceeds the pre-record video buffer.*
- **POST-RECORD**
  Define how much time the DVR will record after motion is detected. The Post Record FPS set in **Section 9.3.5** determines the frame rate of this recording.
- **ALARM OUT**
  This feature is not available on WPS-100-DVR-4CH.
- **BUZZER**
  By default, the internal buzzer is disabled to sound when motion for this camera is detected.
- **LOG**
  By default, the DVR will log to the Event Log when motion is detected.
- **E-MAIL**
  Send an E-mail message to pre-defined E-mail address in the event motion detected for this camera. See **Section 9.3.11** for more information on E-mail.
- **FTP**
  This feature is not available on WPS-100-DVR-4CH.
- **SCREEN MESSAGE**
  By default, the DVR will display a motion detection message in the System Status Bar (visible from the VGA or BNC main monitor output only) when motion is detected for this camera.

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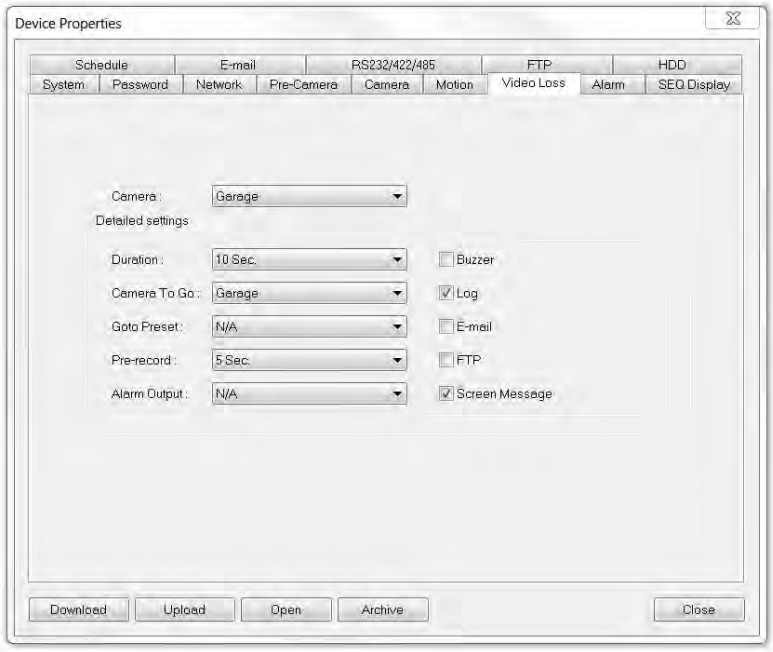
### 8.3.7 VIDEO LOSS

**Video Loss Setup** allows the administrator to define how the system responds when video signal is lost for the camera.




**The following is a brief description for each item in this menu and its specific operations:**

- **CAMERA**
  Select the camera to define video loss triggered events.
- **DURATION**
  Set the length of time the buzzer and the corresponding Alarm Out relay will remain triggered once video loss is detected for this camera. The Buzzer and Alarm Out relay will reset immediately once video signal is restored.
- **CAMERA TO GO**
  This feature is not available on WPS-100-DVR-4CH.
- **GOTO PRESET**
  This feature is not available on WPS-100-DVR-4CH.
- **PRE-RECORD**
  Define how much time the DVR will record before video loss is detected. The Pre Record FPS set in **Section 9.3.5** determines the frame rate of this recording.
  *Note: Actual pre-record time may be shorter than the value set if the total size of the pre-record video exceeds the pre-record video buffer.*
- **ALARM OUT**
  This feature is not available on WPS-100-DVR-4CH.
- **BUZZER**
  By default, the internal buzzer is enabled to sound when video loss for the camera is detected.
- **LOG**
  By default, the DVR will log when video loss is detected to the Event Log.

- **E-MAIL**
  This DVR can send an email message to a pre-defined E-mail address in the event video loss is detected for this camera. The default setting is disabled. See **Section 9.3.11** for more information on E-mail.
- **FTP**
  This feature is not available on WPS-100-DVR-4CH.
- **SCREEN MESSAGE**
  By default, the DVR will display a video loss message in the System Status Bar (visible from the VGA or BNC main monitor output only) when video loss is detected for this camera.

### 8.3.8 ALARM
This feature is not available on WPS-100-DVR-4CH.

### 8.3.9 SEQ DISPLAY
This feature is not available on WPS-100-DVR-4CH.

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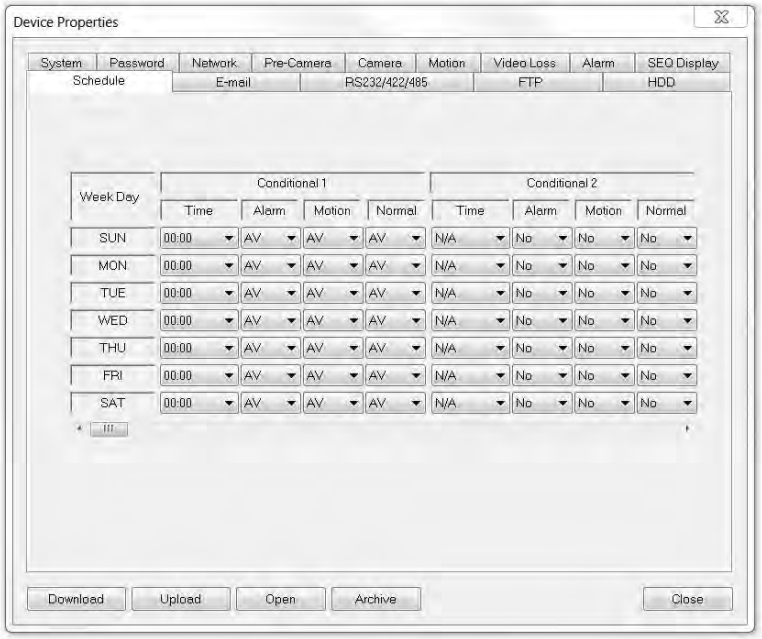
## 8.3.10 SCHEDULE

The **Scheduled Record Setup** allows the administrator to define when and how video (and audio) will be recorded. This feature may be useful to increase hard drive storage space by defining what types of events are recorded on specific days of the week. For example if **Normal Recording** (recall that the DVR is capable of always recording video even without event triggers such as motion or alarm) is not necessary, this feature can be disabled on a daily basis. To further define when and how the DVR records, up to 16 time segments are available for each day of the week.




**The following is a brief description for each item in this menu and its specific operations:**

- **START**
  Set the start time of this time segment (conditional) in increments of 30 minutes in military time format. The end time of this conditional is implicitly set as the start time of next conditional.

  Example: If the following start times are set:
  - Conditional 1 = MON at 9:00
  - Conditional 2 = MON at 18:00
  - Conditional 3 - Conditional 16 = MON as N/A (Not Available)
    --- then ---
  - Conditional 1 = MON 9:00-18:00
  - Conditional 2 = MON 0:00-9:00 **and** 18:00-24:00

- **ALARM**
  Define if Alarm events are recorded. Options include **V** for Video only, **AV** for Audio and Video, **NO** for No Recording, and **OFF** for recording but no event notification.

- **MOTION**
  Define if Motion events are recorded. Options include **V** for Video only, **AV** for Audio and Video, **NO** for No Recording, and **OFF** for recording but no event notification.

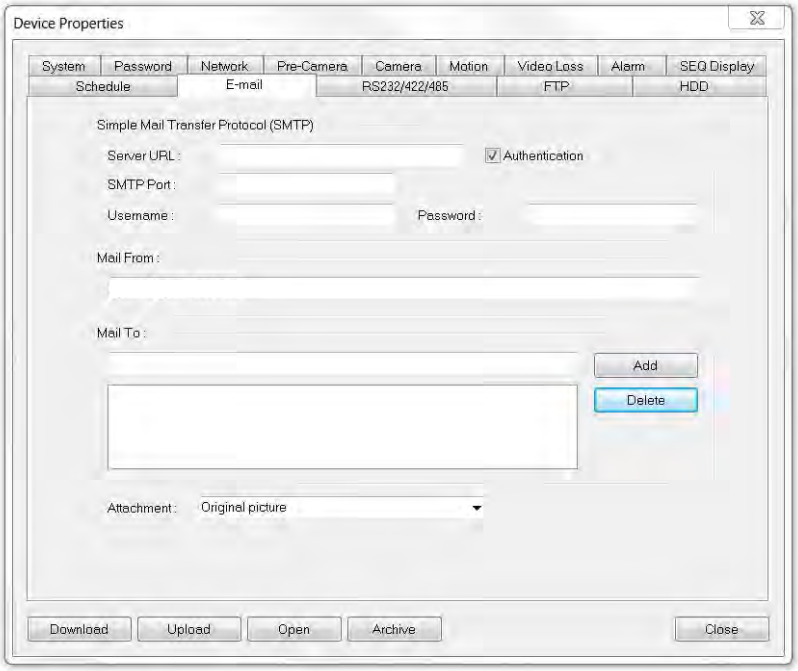
- **NORMAL**
  Define if normal video and audio (non-event based video and audio) is recorded. Options include **V** for Video only, **AV** for Audio and Video, **NO** for No Recording, and **OFF** for recording but no event notification.

  *Note: If both Alarm and Motion are set to OFF, then all video and audio recordings will be considered "normal recording" unless there is Video Loss for a particular camera.*

- **BUZZER**
  By default, the internal buzzer is enabled to sound when video loss for the camera is detected.

## 8.3.11 E-MAIL

When an event occurs and E-mail is enabled as a corresponding action, an E-mail will be sent based on the parameters set in this menu. Consultation with the E-mail service provider may be required to set these parameters correctly.




**The following is a brief description for each item in this menu and its specific operations:**

- **SMTP SERVER**
  Enter the SMTP mail server name.

- **SMTP PORT**
  Enter the SMTP port for E-mail transmission. The default value is 25.

- **AUTHENTICATION**
  Check/uncheck this item depending on whether the SMTP mail server requires authentication.

- **USERNAME**
  Enter the **username** to the E-mail service.

- **PASSWORD**
  Enter the **password** to the E-mail service.

- **MAIL FROM**
  Enter the E-mail address of the associated E-mail account.

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*Note: This setting is specific and must match E-mail client settings used to access an E-mail account or the E-mail feature will not be operable. Do not enter generic text in this field.*

- **MAIL TO #1-5**
  The DVR can send E-mails originated from triggered events to up to five different E-mail addresses. Enter the appropriate E-mail addresses in these fields.

- **ATTACHMENT**
  This feature offers the ability to attach a picture from the corresponding camera to the E-mail being sent. Optional picture sizes for the attachment can be set to **Original** to match the recorded resolution or set to **QCIF** (Quarter CIF is 176 x 144 pixels) to reduce the size of the attachment. Select **N/A** to disable attachments.

  *Note: If the DVR's resolution is set to Half D1, picture attachments in the E-mail will appear "squished" since the DVR reduces the horizontal lines of resolution by half (therefore reducing storage space and bandwidth requirements). This only effects E-mails and not noticeable in .h264 live or recorded playback video.*

### 8.3.12 RS232/485

This feature is not available on WPS-100-DVR-4CH.

### 8.3.13 FTP

This feature is not available on WPS-100-DVR-4CH.

### 8.3.14 HDD

This feature is not available on WPS-100-DVR-4CH.

## 8.4 DUAL STREAMING

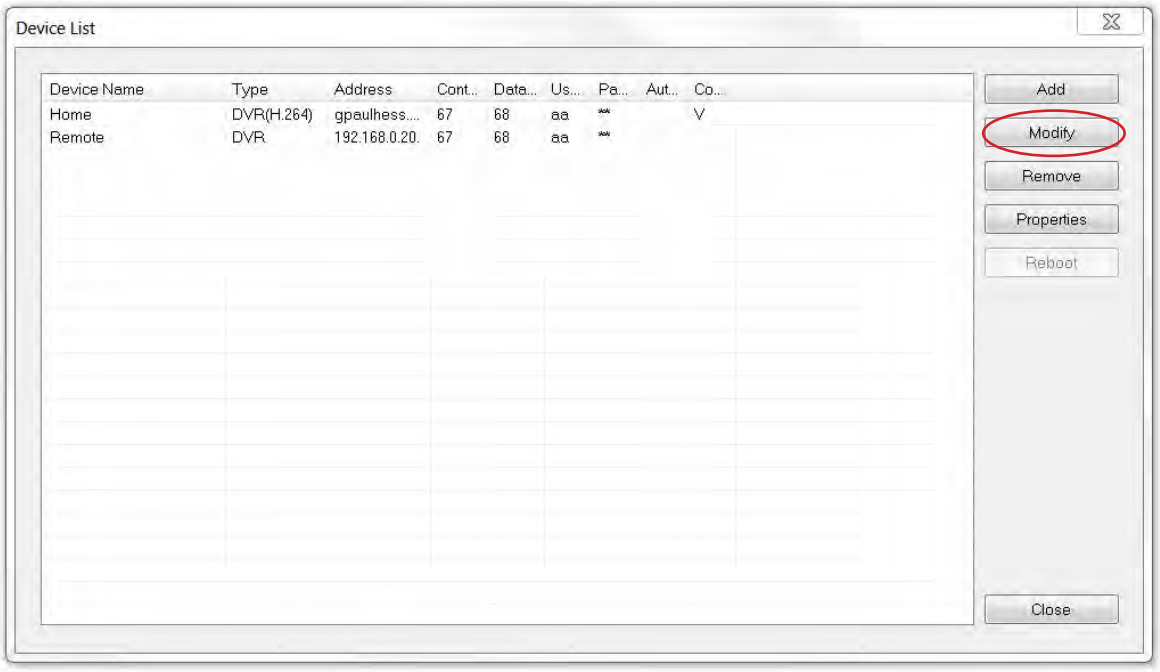
This DVR offers two simultaneous video (and audio) streams to allow the DVR to record at a higher resolution while streaming the video to remote devices at a lower resolution. Dual Streaming can be set two ways. The first option is to set Compression (found in the Pre-Camera tab) to High. The second option is to set Video Stream (found in the Network tab) to one of the four QCIF levels.

Recommendation: Set Compression to Normal and use the Video Stream in the Network tab to enable Dual Streaming.

Internet Explorer allows the user to choose which stream is being viewed, **Record** or **Extra**. Use the **Modify** menu of **Device Config** to change the video stream being displayed in Internet Explorer. The setting should be based on the bandwidth capability of the network.

To access this menu,
select **Device Config** icon from Internet Explorer.

1. Select the DVR to control and click on **Modify**.

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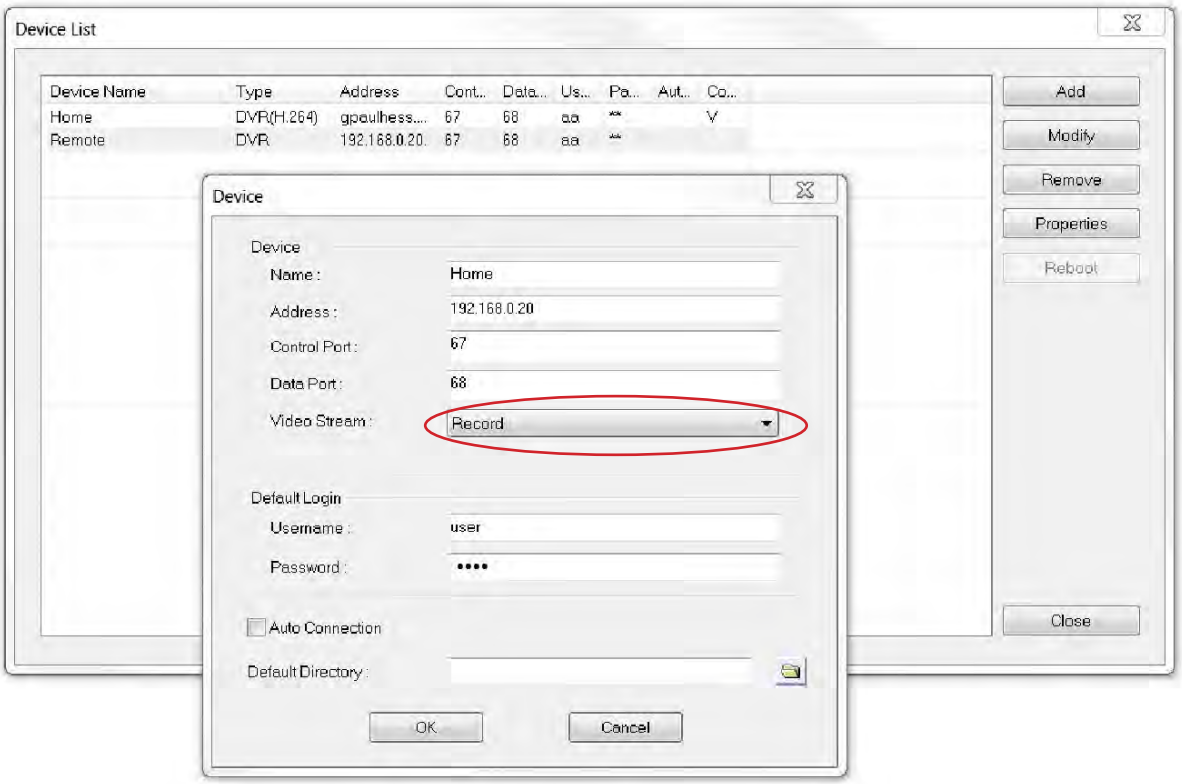
2. Adjust the **Video Stream** accordingly.

- **RECORD**
  If **Record** is selected, the PC will match the Best REC Resolution setting found in **Pre-Camera** tab. The **Record** setting (with Compression set to Normal, see **Section 9.3.4**) delivers the best video performance but requires the network to offer the necessary bandwidth capacity. See **Section 9.3.4** for more information on the Record setting.

- **EXTRA**
  If **Extra** is selected, the PC will use the extra network stream (Dual Stream) to reduce bandwidth consumption and speed video delivery to the remote PC. In the **Network** tab select one of the four QCIF options listed in Video Stream. See **9.3.3** for more information on the Video Stream setting.



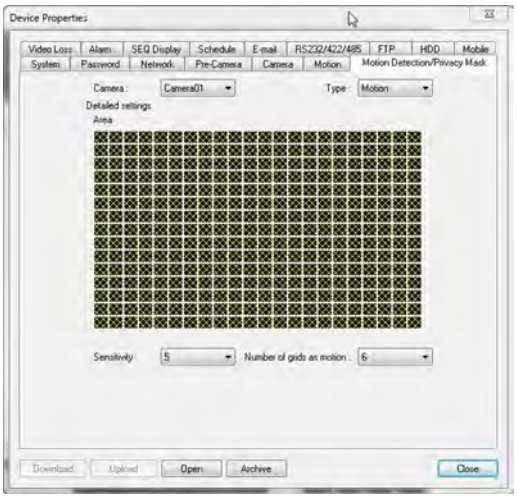

**RECOMMENDED SETTINGS:**

| | Recommended Settings for typical networks | | |
|---|---|---|---|
| | **Fiber /Cable** | **DSL / 3G** | **Smartphone** |
| Record Setting | D1 | D1 | CIF |
| Compression | Normal | Normal | Normal |
| Record Quality | 9 | 5 | 1 |
| Video Stream | Record | QCIF Superfine | QCIF Fair |
| Notes | For the best quality video recording to the DVR and streaming to remote devices on a high speed network | For high quality video recording to the DVR and smooth motion steaming to medium speed networks | For the most efficient use of hard drive space and steaming to devices on a slow network |

## 8.5 MOTION DETECTION / PRIVACY MASK

**Note:** This feature is only available on DVRs with software versions 7.77.53 or higher. Update the DVR to the latest version available on the SnapAV Website to use this feature.

See **Section 5.6 SOFTWARE UPGRADE** for information on performing a software upgrade.




### 8.5.1 MOTION DETECTION

Motion Setup allows the administrator to define how the system responds when motion is detected for the camera.

1. Select the Motion Detection / Privacy Mask tab.
2. Select the desired camera from the Camera dropdown list.
3. Select Motion from the Type dropdown list.
4. When opened, the area will show Yellow patterns over the camera image (Yellow indicates the areas the DVR will detect for motion). Click and Hold the left mouse button and drag over the area(s) where motion detection is not desired.

**Tip:** Select the entire visible area of the camera to remove motion detection from the camera. After doing so, select the area in which motion detection is desired.

5. Adjust Sensitivity and Number of grids (number of boxes in the picture that must see motion before triggering) to achieve the desired results. Adjust Sensitivity and Number of grids for all lighting conditions during setup for the best results.
6. Select Upload to save the settings.
7. Repeat for all cameras connected to the DVR.

**Tips for motion detection setup:**
DVRs recognize the change in light to detect motion (this is different than the typical PIR security motion detector that uses multiple beams of infrared light). It is critical to understand possible changes in the scene to reduce false motion detection. Generally it is easier to control the lighting and the scene in indoor environments for accurate motion detection.

However, in exterior locations environmental factors such as shadows due to changes in weather or the position of the sun, leaves blowing in the wind and even animals can falsely trigger motion detection. For highly sensitive environments it may be better to use a 3rd party PIR motion detector connected to the alarm inputs on the DVR. We recommend the use of higher quality cameras (such as our 500 and 700 series) that do not induce noise into the picture in low light conditions that could false trigger the DVR.

#### 8.5.2 PRIVACY MASK

Privacy Mask allows the administrator to define areas of the camera to not be shown in the camera image. There areas will be hidden with black boxes/grids

1. Select the Motion Detection / Privacy Mask tab.
2. Select the desired camera from the Camera dropdown list.
3. Select Privacy Mask from the Type dropdown list.
4. When opened, the area will show the camera image. Click and Hold the left mouse button and drag over the area where privacy is desired. (A Yellow pattern will indicate the selected Privacy area.)
5. Select Upload to save the settings.
6. Repeat for all cameras connected to the DVR.

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## 8.6 REMOTE VIEWING WITH A SMARTPHONE

### 1. INSTALL THE APPLICATION

WPS-DVR

**1.** Install the application

**1.1.** On iPhone®, iPad®, or iPod touch®

A. Access the App Store℠ using iTunes® or your Apple® Device, and search for WPS-DVR (WPS-DVR-HD).

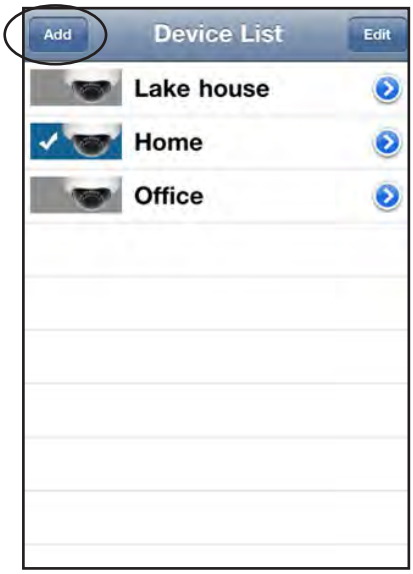
B. Install and run WPS-DVR or WPS-DVR-HD on your Apple® Device.

**1.2.** On Android™ Device

A. Access the Android™ Market using your Android™ Device and search for WPS-DVR.

B. Install and run WPS-DVR on your Android™ Device.

### 2. ADD THE DVR IN THE DEVICE LIST




1. Select the **Add** button to add the DVR to the **Device List**.

2. Enter a name for the DVR in **Device Name.**

3. Enter the DVR's IP address or DDNS name in **Address**.

   - If connecting on a local network, enter the IP address (Ex: 192.168.0.101).
   - If using DDNS, enter the registered domain name (such as smithdvr.dyndns.com). *Note: Do not precede the address with "http://" or add a port number to the end of the address.*

4. Enter the **Control Port** and **Data Port** numbers that match the settings of the DVR and the router that the DVR is connected to. By default, these numbers are **67** and **68** respectively.

5. Enter the **User Name** and **Password** for the DVR. By default, these settings are **user** and **1234** respectively.

6. Select **Extra** to connect to the DVR's Extra network stream or select **Record** to view the Main stream. When Extra is selected, the resolution of the live stream being viewed will be determined by the **Video Stream** setting in the **Network Menu**. When Record is selected, the resolution of the stream will match that of the **Best REC Resolution** set in the **Pre-Camera Menu**. The Record setting offers the most resolution but requires a high-speed network connection. The Extra setting will improve the speed of the video but at a lower resolution.

7. If enabled, **Auto Connect** will establish a connection with the DVR as soon as the application is opened.

8. Select the **OK** button once settings are complete.

Recommendation: Enter two devices per DVR to the Device List. One could be named "Local" and the second "Remote." When the user is connected to the same local network as the DVR and selects "Local," the user will experience faster network speed. When connected to a remote network, the user should select "Remote" to still have access to the DVR.

### 8.6.1 REMOTE DISPLAY AND OPERATION

After launching **WPS-DVR or WPS-DVR-HD**, select the DVR in the **Device list** to connect. The application will open to a 4 window split screen by default. Use the **CH** button or double-tap a quadrant in the split screen to view a single camera full screen. Once in full-screen view, a "swipe" feature enables the ability to sequentially scroll through all of the cameras. This feature is also available in landscape mode.

- **DISPLAY OPERATION**

| | |
|---|---|
| | **BACK** - Exits the Main Display and returns to the Device List |
| | **DVR SELECTION** - Select and connect to other DVRs in the Device List |
| | **CH** - Displays a virtual numeric keypad for 16 cameras. Select any camera to switch to the full-window display for that camera. |
| | **GRID** - Select 1, 4, 9 or 16 split-window view of the DVR. The 4 split-window view offers views in groups of four. |
| | **AUDIO** - Enable/mute the audio output from the DVR. This option is only available when in full window view of the camera that has audio associated with it in the DVR setup. |
| | **SNAPSHOT** - Snapshot of the screen is sent to the Photo Library of the iPhone. |
| | **PTZ FUNCTION** -This feature is not available on WPS-100-DVR-4CH. |

- **PTZ OPERATION**

This feature is not available on WPS-100-DVR-4CH.

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## • SEARCH OPERATION

| | |
|---|---|
| | **Search By Time** - Select month-day-year-hour-minute of the video to be viewed and press to begin playback. |
| | **Search By Event** – A chronological list of events will be displayed beginning with the most recent event first. Use the **FWD** and **RWD** icons to scroll to more pages of this list. This search can be further refined by **ALARM**, **MOTION**, **VIDEO LOSS** and **SYSTEM LOG** events shown by these four icons. Events of these types can be hidden from view by toggling the associated icon and selecting the **REFRESH** button. |
| | **Alarm In/Out** – This feature is not available on WPS-100-DVR-4CH. |

## • PLAYBACK OPERATION

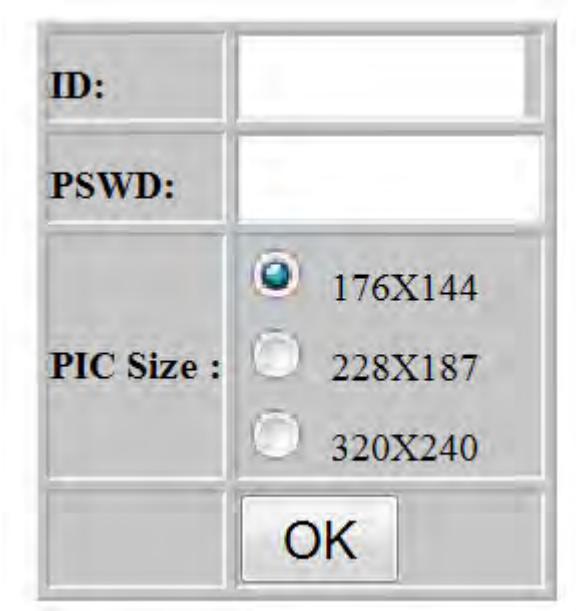
| | |
|---|---|
| | **Fast Reverse** |
| | **Fast Forward** |
| | **Single Step** |
| | **Play / Pause** |
| | **Stop** |
| | **Playback** function menus are split across two pages. Press these buttons to scroll to the next function menu. |

## 8.7 SMARTPHONE REMOTE CONTROL (WHEN USING A BROWSER) USING WAP

The DVR can also be remotely accessed using a web browser installed on a Smartphone that supports **xHTML** and **MJPEG** file format, and has a screen resolution of **240x320** or above.

To access the DVR, enter the DDNS name or IP address of the DVR in the Location/Address field of the web browser. For most mobile devices, the DVR will automatically redirect to the correct web page by adding the extension **/wap.htm** (EX. http://192.168.1.89/wap.htm). If the DVR does not redirect the device, enter the full address with **/wap.htm** added to the end. If the HTTP has been changed from the default port 80, the correct port should also be added to the address (EX. http://192.168.1.89:800/wap.htm if the HTTP port has been changed to 800).

- **LOGIN**
  Once the login page is displayed, enter the correct login name and password for the DVR to log into the system. Also choose the preferred picture size. Press **OK**.




**The following is a brief description for each item in this menu and its specific operations:**

- **OK BUTTON**
  Press the **OK** button to submit the settings to DVR. The new settings will take effect and the screen will refresh.

- **QUADRANT**
  Select one of the four-camera quadrants (Q1 for cameras 1-4 or Q2 for cameras 5-8) views or single camera view (cameras 1-8).

- **REFRESH RATE**
  Set the refresh rate from every second to every 30 seconds. For fast auto-refresh, select **0S**.

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# 9. WARRANTY

**3-Year Limited Warranty**

This DVR has a 3-Year Limited Warranty. The warranty includes parts and labor repairs on all components found to be defective in material or workmanship under normal conditions of use. This warranty shall not apply to products which have been abused, modified, disassembled or improperly installed. Products to be repaired under this warranty must be returned to Wirepath™ Surveillance or a designated service center with prior notification and an assigned return authorization number (RA).

For technical support: 1.866.838.5052

# APPENDIX A – SPECIFICATIONS *

| | | |
|---|---|---|
| System | O.S. | Embedded Linux 2.6 |
| | Multiplex | Sixfold operation - simultaneous record, live, playback, backup, control, & remote access |
| | Certification | FCC, CE |
| Video | Format | NTSC |
| | Input | 4-CH, BNC, 1Vp-p/75ohm |
| | Main monitor | BNC x 1, 1Vp-p/75ohm<br>VGA D-SUB 15-pin connector |
| | 3-D de-interlace & de-noise | Yes |
| | Loss detection | Yes |
| | Motion detection | Yes, with configurable detection area & sensitivity |
| Audio | Input | 1 RCA-jack connector, line-in level (100mV-2Vrms) |
| | Output | 1 RCA-jack connector, line-out level (up to 2Vrms) |
| Record | Compression | Video: H.264<br>Audio: ADPCM |
| | Frame rate (FPS) & Resolution | NTSC – 60 / 720*480, 120 / 720*240, 120 / 360*240 |
| | Mode | Manual/Schedule/Motion |
| | Pre-record time | 0 - 10 seconds |
| | Post-record time | 0 - 60 minutes |
| Display | Resolution | NTSC – 720*480 |
| | Split windows | 1/4 |
| | Frame rate | Up to 30 per display window |
| | Freeze | Yes |
| | Sequential switch | Yes |
| | Digital Zoom | X2, X4 |
| Playback | Frame rate (FPS) & Resolution | NTSC – 60 / 720*480, 120 / 720*240, 120 / 360*240 |
| | Search | Smart search, Date/time, Camera, Motion, & Video Loss |
| | Operation | Play, Fast Forward, Backward, Pause, Stop, etc. |

Specifications are subject to change without notice

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# APPENDIX A – SPECIFICATIONS

| | | |
|---|---|---|
| Storage | HDD | 1 SATA type HDD |
| | Backup | 1 USB 2.0 port for USB 2.0 disk drives, DVD+RW, DVD+R, DVD-R, card readers, HDD, etc.<br>Self playback for backup files |
| Alarm | Buzzer | Yes |
| | Triggered by | Video loss & Motion |
| | Event log | Yes |
| Network | Ethernet | 1 RJ-45 10/100BaseT Ethernet connector |
| | Web | Remote setup, monitoring, backup, alarm notification, & remote software upgrade |
| | DDNS | Free DDNS server |
| | E-mail | Alarm notification to stationary or mobile devices |
| | Video | 1/4 split-window |
| | Audio | Bidirectional |
| | Protocol | TCP/IP, HTTP, PPPoE, DHCP, DDNS, FTP, TSP |
| | Remote users | Up to 6 users simultaneously |
| | Bandwidth | TCP/IP type dynamic sliding window control |
| | Remote stations | Streaming video for PC, mobile phone, PDA, etc., no Apps required |
| Control | IR | 1 IR remote controller |
| Setup | Local | On screen setup via I/R remote controller and/or mouse |
| | Multi-lingual | Yes |
| Reliability | System recovery | Auto power on after power loss recovery |
| | Watch Dog Timer | Yes |
| | Timer | Built-in real time clock |
| | Security | Multi-level password (3 levels, up to 18 accounts) protection with authentication key for remote access |
| Weights & Measures | Dimension | 7.3"W x 7.7"D x 1.7"H |
| | Weight | 2.65 lbs (w/o HDD) |
| Power | Source | +12 V 3.0A DC |
| | Consumption | 30W Max. |
| Operating Temperature | | 32˚F ~ +113˚F (0˚C ~ +45˚C) |

*Specifications are subject to change without notice

# APPENDIX B – HARD DRIVE RECORDING TABLE

The following tables list the recording time in days for the factory-installed hard drives. Please Visit the appropriate product page on www.snapav.com to calculate recording times for replacement hard drives with different capacities.

**WPS-100-DVR-4CH Storage Size: 500GB**

| Resolution | Quality | Total Recording Rate (FPS)* | | | |
|---|---|---|---|---|---|
| | | 120 | 60 | 30 | 15 |
| 720x480 (Full D1) | 9 | | 3.5 | 7.0 | 13.9 |
| | 8 | | 3.9 | 7.9 | 15.7 |
| | 7 | | 4.6 | 9.2 | 18.4 |
| | 6 | | 5.2 | 10.5 | 21.0 |
| | 5 | | 6.9 | 13.8 | 28 |
| | 4 | | 8.5 | 17.1 | 34 |
| | 3 | | 12.5 | 25 | 50 |
| | 2 | | 17.2 | 34 | 69 |
| | 1 | | 27 | 54 | 107 |
| | | | | | |
| 720x240 (Half D1) | 9 | 3.5 | 6.9 | 13.9 | 28 |
| | 8 | 3.9 | 7.8 | 15.7 | 31 |
| | 7 | 4.6 | 9.2 | 18.4 | 37 |
| | 6 | 5.2 | 10.5 | 21.0 | 42 |
| | 5 | 6.9 | 13.8 | 28 | 55 |
| | 4 | 8.5 | 16.9 | 34 | 68 |
| | 3 | 12.4 | 25 | 49 | 99 |
| | 2 | 17.2 | 34 | 69 | 138 |
| | 1 | 27 | 54 | 107 | 214 |
| | | | | | |
| 360x240 (CIF) | 9 | 6.9 | 13.8 | 28 | 55 |
| | 8 | 7.8 | 15.6 | 31 | 62 |
| | 7 | 9.3 | 18.5 | 37 | 74 |
| | 6 | 10.5 | 21.0 | 42 | 84 |
| | 5 | 13.8 | 28 | 55 | 110 |
| | 4 | 16.6 | 33 | 67 | 133 |
| | 3 | 24.1 | 48 | 96 | 193 |
| | 2 | 34 | 69 | 138 | 276 |
| | 1 | 54 | 107 | 214 | 429 |

* Time in Days is estimated based on typical camera scenes, and averaged by H.264 I/P/P frames.

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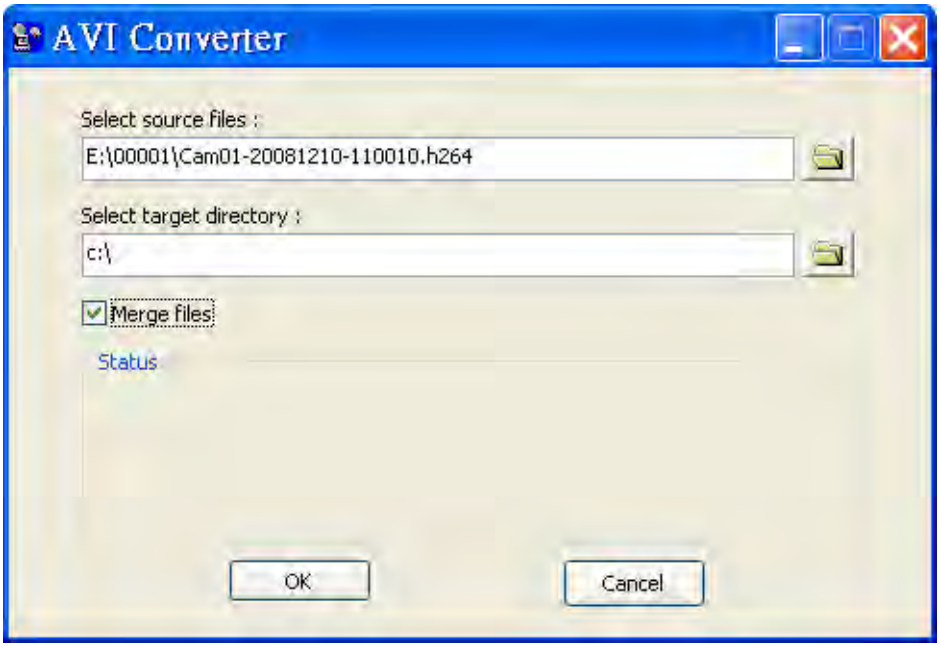
# APPENDIX C – H.264 TO AVI CONVERSION UTILITY

Included on the bundled disc is a MS-Windows utility program used to convert native .h264 files from the DVR to .avi file format to be played back on PCs using Windows Media Player.

1. Insert the CD in the CD-ROM or DVD-ROM drive in the PC and copy the **AVI_Converter.exe** file to the desktop. Double click the **AVI Converter** icon to open the utility.

2. Select the source files (**.h264** files archived from the DVR) to be converted. Select the target directory to save the converted files. Check **Merge files** to "chain" multiple backup files to be converted into one **.avi** file. Click on **OK** to complete the conversion. The converted **.avi** files can be played by **Windows Media Player** or other playback software that supports the **.avi** file format.



# APPENDIX D – WIREPATHDNS SETUP

Using the WirepathDNS is easy. Select WirepathDNS from the list and enter the client name or other unique string in the URL. When exiting the Network menu, confirm the changes. A DDNS service is setup automatically. See IE Interface Setup and DVR Local Display Menu Setup below for details on using WirepathDNS.

## SOFTWARE VERSION NOTES

When connecting to a DVR via IE an ActiveX component is downloaded that contains a list of available DDNS options.

While WirepathDNS will appear in the IE interface list for all DVRs, this option will ONLY function with software version 7.75.53 or later. DVRs with software below 7.75.53 will need to be upgraded in order to use WirepathDNS on any DVR in the system. Do not setup a WirepathDNS service until the DVR is updated to 7.75.53 or later or you may lose remote access to the DVR.

## IE INTERFACE SETUP

1. Log into the DVR via the IE interface.
2. Click on the DEVICE CONFIGURATION icon.
3. Select the DVR in the Device List and click PROPERTIES.
4. Select the NETWORK tab.
5. Under PPPoE/Static IP, set DDNS Type to WirepathDNS.
6. Enter Client Name or System Name to identify the DVR in the URL field. Choose a name that describes the DVR so that it can be easily identified.
7. Click UPLOAD to update the settings on the DVR.
8. CLOSE the Device Properties window.
9. Reselect the DVR in the Device List and click PROPERTIES.
10. Reselect the NETWORK tab.
11. The full address for the DVR will now appear in the URL. Example: snap.WirepathDNS.com
    **Note:** If the address name is not available, a chosen name will appear in the URL window. Example: snap100.WirepathDNS.com. Repeat steps 4 to 11 until a desired name is achieved.
12. Write down the full name so that it can be used to access the DVR.

## DVR LOCAL DISPLAY MENU SETUP

1. Log into the DVR.
2. Open the SETUP menu.
3. Open the NETWORK menu.
4. Under DDNS, set Type to WirepathDNS.
5. Enter Client Name or System Name to identify the DVR in the URL field. Choose a name that describes the DVR so that it can be easily identified.
6. Close the NETWORK menu by pressing MENU/ESC on the remote or clicking the X in the upper right hand corner with the mouse.
7. Close the SETUP menu.
8. Reopen the SETUP menu.
9. Reopen the NETWORK menu.
10. The full address for the DVR will now appear in the URL. Example: snap.WirepathDNS.com
    Note: If the address name is not available, a chosen name will appear in the URL window. Example: snap100.WirepathDNS.com. Repeat steps 4 to 9 until a desired name is achieved.
11. Write down the full name so that it can be used to access the DVR.

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## ACCESSING THE DVR

**Internet Explorer**
To access the DVR, the address must be preceded by http://.

Example: http://snap.WirepathDNS.com:81/ie.htm

The standard port (80) will be used, and does not need to be included in the address. If the port has been changed within router setup, the port number assigned must follow the address.

**Smartphone App**
To access the DVR, the address is all that is needed, do not enter any prefix or suffix.

Example: snap.WirepathDNS.com

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